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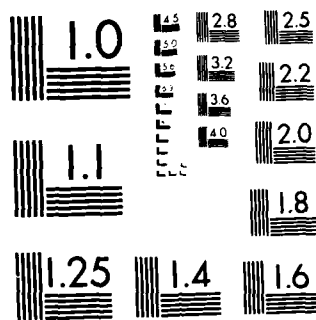
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TECHNICAL REPORT

Archaeological and Historic Cultural Resources
Inventory for a Proposed Flood Control Project
at Devils Lake, North Dakota

Contract #DACW37-81-M-2546

Prepared by:

HISTORICAL AND ARCHAEOLOGICAL SURVEYS, INC.

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No previously recorded prehistoric or historic cultural resource sites or site leads had been located or recorded in any proposed Plan 1 or Plan 2 flood control right-of-way lines or areas prior to HASI's survey, nor are any currently listed National Register of Historic Places properties located in areas proposed for flood control measures. One historic cultural resource site was located and recorded during field reconnaissance in the study area. This site, 32RY9, is comprised of the remnants of an abandoned railbed, which once was used by the Devils Lake and Chautaugua Railroad to transport patrons of the North Dakota Chautaugua to the Chautaugua grounds on Creel Bay. A portion of the railbed is situated in Section 4, T153N, R64W, and it will be inundated if the proposed south holding pond is constructed.

The tracks and ties used to construct the Devils Lake and Chautaugua Railroad were removed in 1917; therefore, the original railroad feature has been altered. Since no structural evidence of the Devils Lake and Chautaugua Railroad exists at the site, it was determined that site 32RY9 no longer retains integrity and it was determined that this site does not retain architectural significance. The site does have historically significant associations, in that it is related to the North Dakota Chautaugua (located on Creel Bay), but these associations are not such that the site would be likely to yield historically important information. Therefore, site 32RY9 is considered not significant, and it is not believed eligible for nomination to the National Register of Historic Places.

It is recommended that no further cultural resource work need be conducted prior to implementation of proposed flood control measures at Devils Lake. Although a portion of site 32RY9 would be affected directly by construction of the proposed south holding pond, the site is considered not significant and no further work is recommended. However, if right-of-way lines or areas are altered from those described in the Scope of Work governing this study, additional cultural resource study for such locations should be pursued.

(7)

FINAL REPORT

Archeological and Historic Cultural Resources Inventory for a Proposed
Flood Control Project at Devils Lake, Ramsey County, North Dakota

Contract #DACW37-81-M-2546

Prepared for:

U.S. Army Corps of Engineers
St. Paul District
St. Paul, MN

Prepared by:

HISTORICAL AND ARCHAEOLOGICAL SURVEYS, INC.
204 4th Avenue NW
Mandan, ND 58554
(701) 663-5065

Compiled by:

James C. Dahlberg
Michele H. Schreiner
Wayne R. Roberson



Kent N. Good, Principal Investigator

JUL 27 1984

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October 1983

ABSTRACT

A cultural resource inventory of proposed Plan 1 and Plan 2 flood control right-of-way lines and areas at Devils Lake, North Dakota, was conducted by Historical and Archaeological Surveys, Inc. (HASI), for the U.S. Army Corps of Engineers, St. Paul District (Contract DACW37-81-M-2546). Records search, literature review, and pedestrian survey were completed in September and October 1981, and additional required field reconnaissance was completed in June and July 1982.

No previously recorded prehistoric or historic cultural resource sites or site leads had been located or recorded in any proposed Plan 1 or Plan 2 flood control right-of-way lines or areas prior to HASI's survey, nor are any currently listed National Register of Historic Places properties located in areas proposed for flood control measures. One historic cultural resource site was located and recorded during field reconnaissance in the study area. This site, 32RY9, is comprised of the remnants of an abandoned railbed, which once was used by the Devils Lake and Chautauqua Railroad to transport patrons of the North Dakota Chautauqua to the Chautauqua grounds on Creel Bay. A portion of the railbed is situated in Section 4, T153N, R64W, and it will be inundated if the proposed south holding pond is constructed.

The tracks and ties used to construct the Devils Lake and Chautauqua Railroad were removed in 1917; therefore, the original railroad feature has been altered. Since no structural evidence of the Devils Lake and Chautauqua Railroad exists at the site, it was determined that site 32RY9 no longer retains integrity and it was determined that this site does not retain architectural significance. The site does have historically significant associations, in that it is related to the North Dakota Chautauqua (located on Creel Bay), but these associations are not such that the site would be likely to yield historically important information. Therefore, site 32RY9 is considered not significant, and it is not believed eligible for nomination to the National Register of Historic Places.

It is recommended that no further cultural resource work need be conducted prior to implementation of proposed flood control measures at Devils Lake. Although a portion of site 32RY9 would be affected directly by construction of the proposed south holding pond, the site is considered not significant and no further work is recommended. However, if right-of-way lines or areas are altered from those described in the Scope of Work governing this study, additional cultural resource study for such locations should be pursued.



MANAGEMENT SUMMARY

Cultural resource reconnaissance survey and historical documentary research was undertaken at Devils Lake, North Dakota, to assist in planning for proposed flood control measures in and around Devils Lake. The Scope of Work (Appendix I) outlines legal mandates requiring this study, gives the specifications for conduct of this study, and details project report requirements.

Sponsor of this project is the St. Paul District, U.C. Army Corps of Engineers (COE). Contractor is Historical and Archaeological Surveys, Inc. (HASI) then of Grand Forks, North Dakota. Contract DACW37-81-M-2546 for \$2,800.00 was awarded on 9 September 1981.

Fieldwork was conducted on 29 September 1981 by HASI archeologists Kent N. Good, James C. Dahlberg, W. Jeffrey Kinney, and Wayne R. Roberson. Additional fieldwork (in response to draft report review comments) was conducted by James C. Dahlberg on 9 June 1982, and again by Dahlberg and by John M. Kjos (HASI archeologist) on 20 July 1982. The field report and historical study report was begun on 2 October 1981 at HASI's main office and laboratory, then located in Grand Forks, North Dakota. Preparation of the draft report also was begun on 2 October 1981, but proceeded intermittently until 22 October 1981, when full-time was devoted to its production. The Chautauqua Railbed Site (32RY9) was recorded during field reconnaissance completed on 9 June 1982.

Review of site and site leads files housed at the State Historical Society of North Dakota (SHSND) was begun in mid-September 1981. The National Register of Historic Places (NRHP) listings, also housed at SHSND, were examined as well. No currently listed NRHP properties are located within areas of proposed flood control measures at Devils Lake. No previously recorded cultural resource sites or site leads are located within areas of proposed flood control measures at Devils Lake, although several sites have been recorded in the vicinity (see Section 2.0).

Previously recorded cultural resource sites located nearest any proposed right-of-way area include a former historic brickyard (site 32RY211) and an historic farmstead (site 32RY210), both situated in the vicinity of New Levee No. 4. It should be noted that site 32RY211 was recorded originally as located in the NE1/4 NE1/4 of Section 16, T153N, R64W. Had this location been correct, the site likely would have been impacted by construction of New Levee No. 4 and/or by water impounded by the levee following its construction; however, HASI staff persons revisited the site on 20 July 1982 and determined that the site actually is located in the NW1/4 NW1/4 NE1/4 of Section 16, T153N, R64W. The site's correct location is at an elevation between 1440 ft. and 1445 ft. above sea level and at a sufficient distance from the proposed location of New Levee No. 4 to ensure that it will not be affected directly or indirectly by construction of New Levee No. 4. SHSND has been notified of the corrected location of site 32RY211. A number of prehistoric sites (which are situated southwest of New Levee No. 2 and along the north shore of Creel Bay) had been recorded previously; however, these were not revisited during the present survey.

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1. INTRODUCTION

Sponsor of the Devils Lake Flood Control Project is the St. Paul District, U.S. Army Corps of Engineers (COE). The cultural resource reconnaissance survey was conducted by Historical and Archaeological Surveys, Inc. (HASI), then of Grand Forks, North Dakota, to assist in COE planning for proposed flood control measures around Devils Lake (Figure 1), under Contract DACW37-81-M-2546 (Appendix I).

Flood control measures proposed by the COE (Scope of Work, Section 4.02) include two plans, which are as follows (Figure 2).

Plan 1 - 1435 Flood Protection (Maximum protection for water to an elevation of 437.4 m--1435 ft.--or less above mean sea level--MSL)

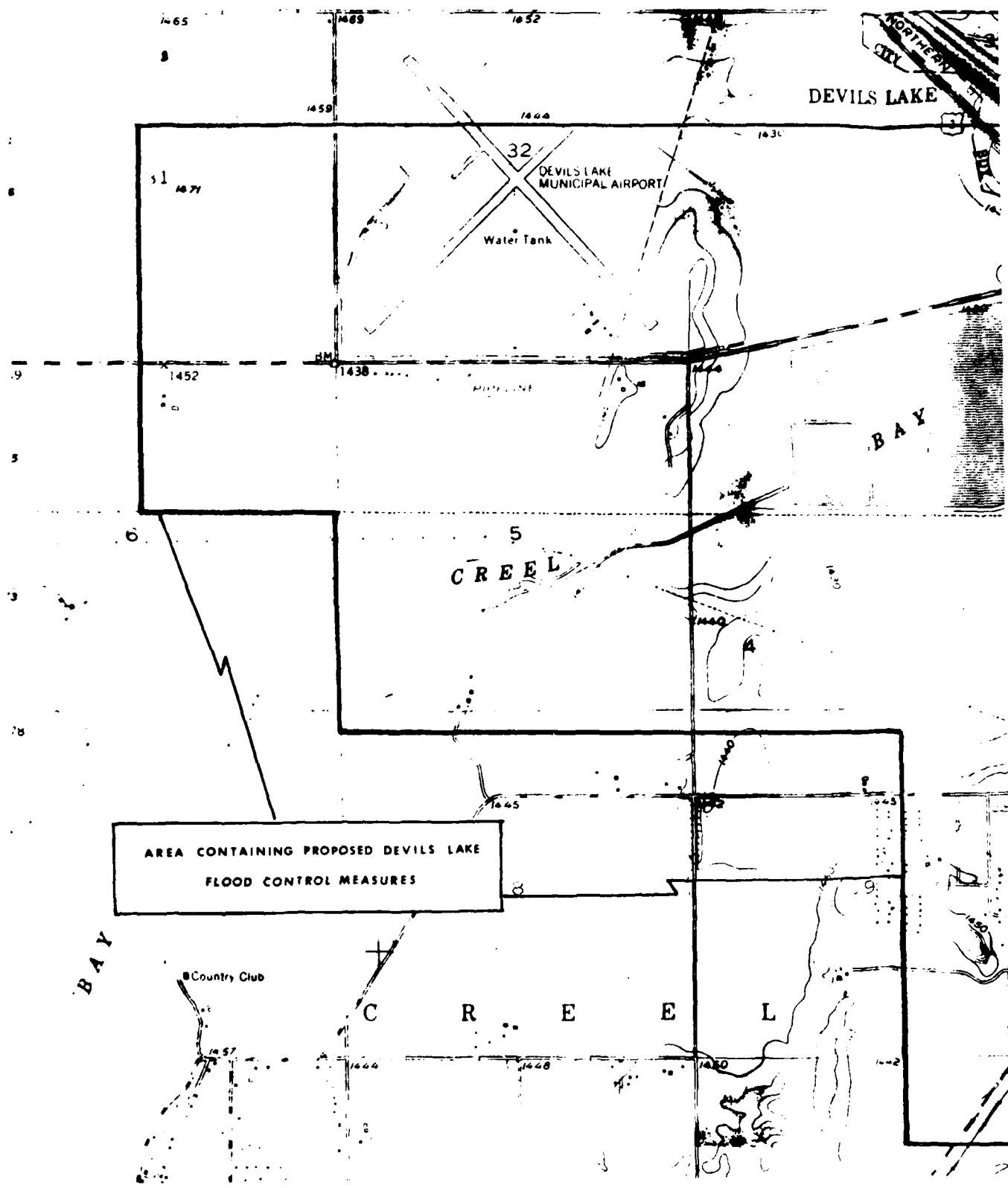
- 1) North Holding Pond, about 30.4 ha (75 ac.)
- 2) North Holding Pond, Alternate A, about 56.7 ha (140 ac.)
- 3) South Holding Pond, about 54.6 ha (135 ac.)
- 4) New Levee No. 1, about 0.6 km (0.35 mi.), 91.4 m (300 ft.) wide

Plan 2 - 1440 Flood Protection (Maximum protection for water to an elevation of 438.9 m--1440 ft.--or less above MSL)

- 1) North Holding Pond, about 30.4 ha (75 ac.); same as Plan 1-1
- 2) North Holding Pond, Alternate A, about 56.7 ha (140 ac.); same as Plan 1-2
- 3) South Holding Pond, about 54.6 ha (135 ac.); same as Plan 1-3
- 4) New Levee No. 1, about 0.6 km (0.35 mi.), 91.4 m (300 ft.) wide; same as Plan 1-4
- 5) New Levee No. 2, about 1.4 km (0.85 mi.), 61 km (200 ft.) wide
- 6) New Levee No. 3, about 0.6 km (0.40 mi.), 61 km (200 ft.) wide
- 7) New Levee No. 4, about 1.5 km (0.95 mi.), 61 km (200 ft.) wide

COE goals for the cultural resource reconnaissance survey at Devils Lake include:

- 1) inventory of all cultural resource sites located within proposed right-of-way (ROW) lines and areas;
- 2) documentary research to obtain historical background data and other information with regard to cultural resource sites in the Devils Lake Flood Control Project area;
- 3) search of pertinent cultural resource site form files and records at the State Historical Society of North Dakota (SHSND) to determine if any previously recorded cultural resource sites are within proposed ROWs;
- 4) search of National Register of Historic Places (NRHP) files at the State Historic Preservation Office (SHPO) in Bismarck, North Dakota, to determine if any currently listed NRHP properties will be affected by proposed construction; and



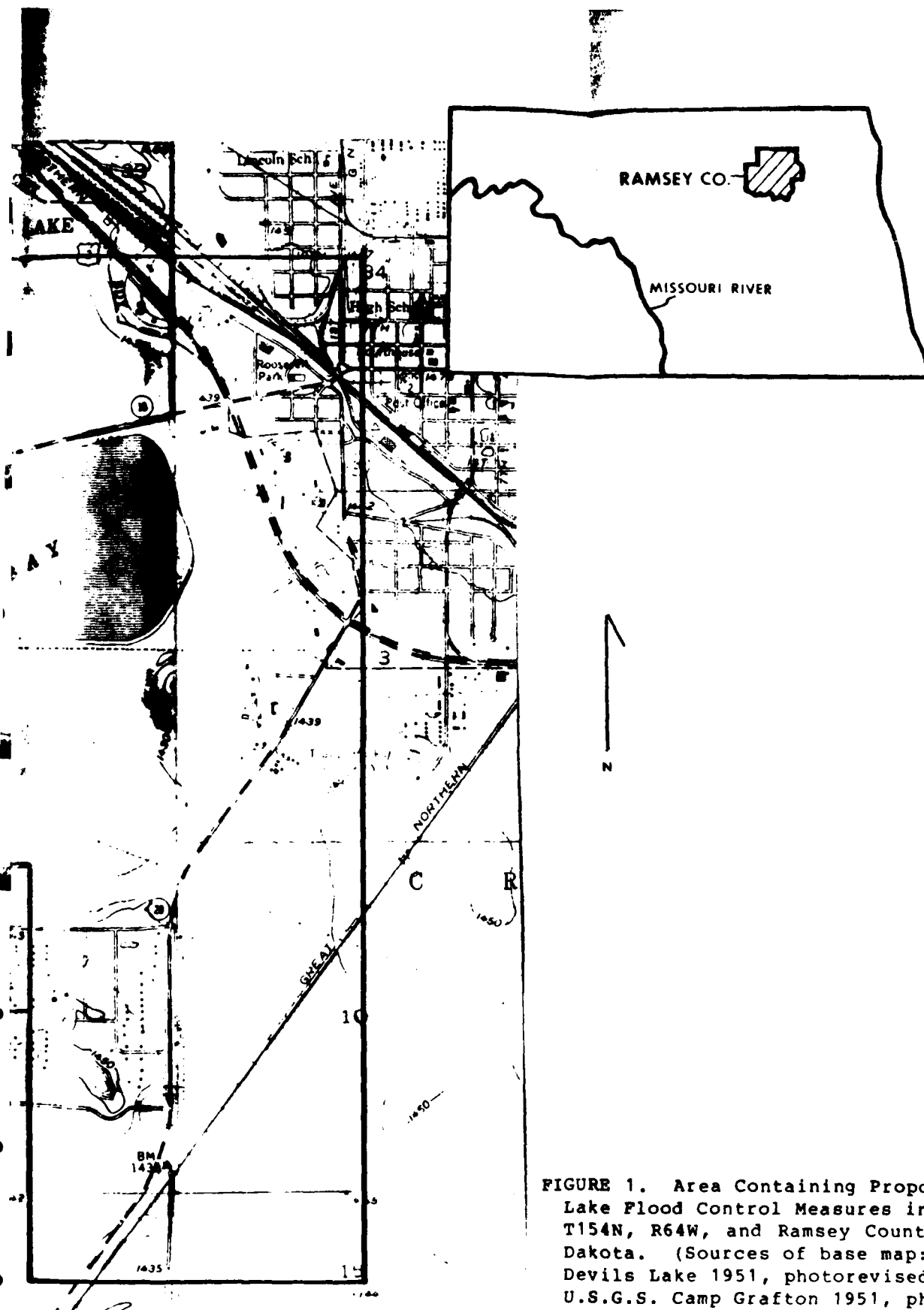
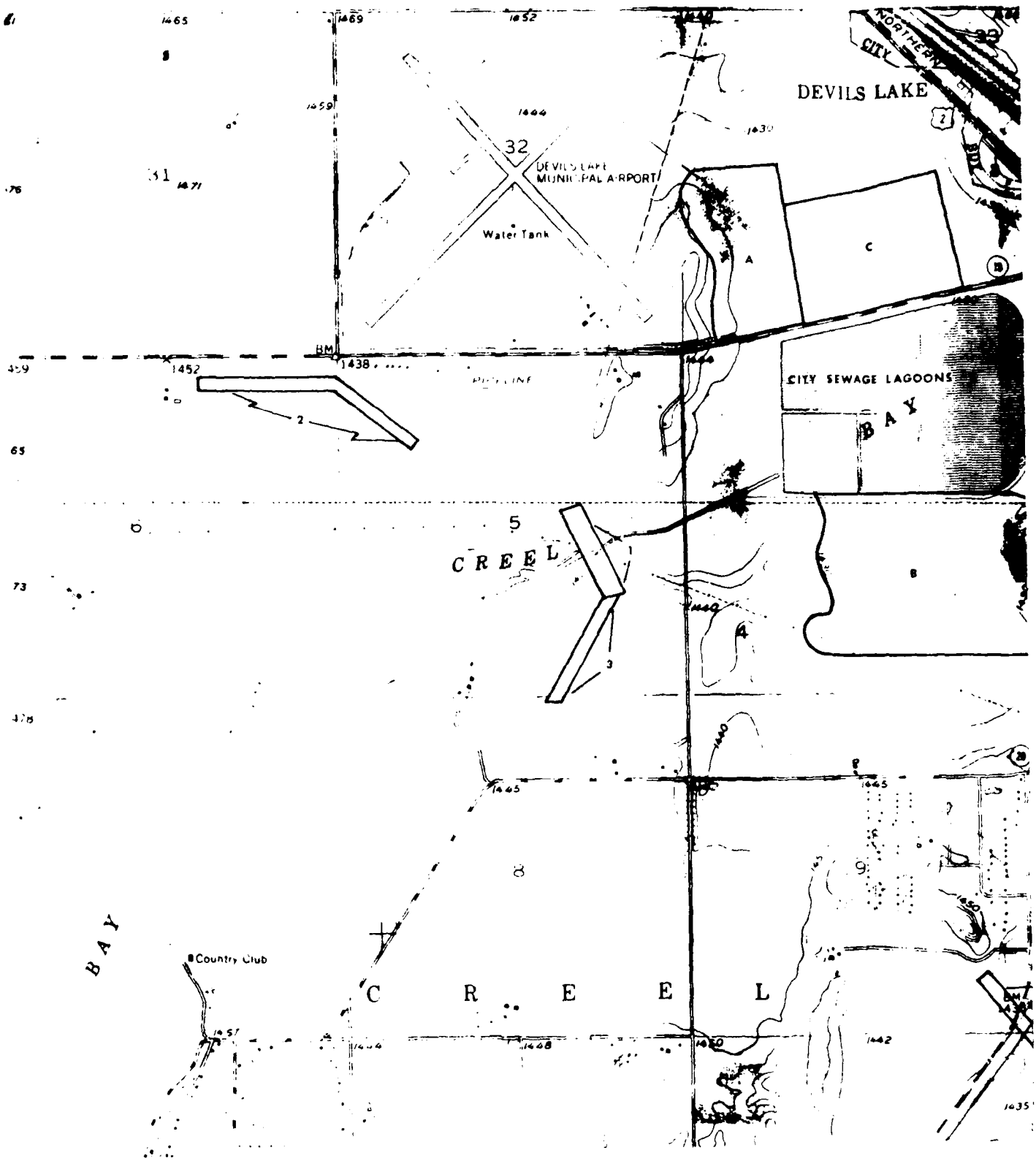


FIGURE 1. Area Containing Proposed Devils Lake Flood Control Measures in T153N and T154N, R64W, and Ramsey County in North Dakota. (Sources of base map: U.S.G.S. Devils Lake 1951, photorevised 1975, and U.S.G.S. Camp Grafton 1951, photorevised 1975)



- 5) recommendations as to possible future research or other appropriate action with regard to cultural resources located in the proposed study area at Devils Lake.

Previous archeological and historical studies of the project area and general region were reviewed in various sources (see Section 11.0). Repositories of these sources include SHSND archives, libraries of the University of North Dakota, and the HASI office library and files. SHSND archives were consulted for information about previously recorded cultural resource sites, and the SHPO was consulted about currently listed NRHP properties located in the Devils Lake study area. Data collected from these places was used in preparation of the Regional Human Occupation chapter (Section 4.0) and Environmental Setting chapter (Section 3.0) and for comparative analyses.

The focus of the literature review was the Devils Lake area and its cultural/environmental setting in relation to the immediate region. General overviews were compiled to give a rounded picture of the study area within the regional context of geography, prehistory, and history. A records search was conducted in mid-September, prior to initiation of field reconnaissance. Literature review was initiated at approximately the same time, and it continued throughout most of the month of October 1981. After receipt of draft review comments, archeological and historical literature was re-examined, to update portions of Section 4.0. An approximate 120 person-hours were involved in records search and literature review.

While evidence of prehistoric occupation of the general Devils Lake vicinity has been reported in the form of burial mounds, lithic scatter areas, and a possible bison jump, no such evidence was found in the specific survey area. An Indian Reservation and military post (Fort Totten) were established at the south shore of Devils Lake in 1867. The lure of free or inexpensive farmland brought settlers to the Devils Lake area in the early 1880s. The first "squatters" were former military personnel, who began developing tracts on Graham's Island in 1880. The greatest influx of settlers was in response to the emergence of the St. Paul, Minneapolis, and Manitoba Railroad (Great Northern, now Burlington Northern) into the area. This railway reached Larimore, North Dakota, in 1881 and Creel City (presently Devils Lake) in 1883, and Creel City served as railhead for 3 years. The early economic success of Devils Lake is a result of that community's association with the steamboat shipping industry and delayed westward construction of the railroad. Today, Devils Lake is a commercial and railroad shipping center, which serves a number of surrounding, largely agricultural communities.

Geographically, the area lies within the Drift Prairie zone. Devils Lake is a self-contained body of water, ponded between prominent features of glacial deposits. Lake level and water quality are dependent on climatic changes; subsequently, they sometimes are subject to drastic fluctuations. The habitability and economic status of the lake region are dependent on these lake fluctuations. It is believed that in prehistoric times (during periods when lake levels were low and the water very brackish) the area could not support large quantities of game

animals. Consequently, few, if any, humans occupied the area. During the early 1930s, when the lake was similarly low and brackish, the major lake resorts were forced to close. At present, the water level is high and the area abounds in game animals, fish, and waterfowl, making outdoor recreation an important industry in the Devils Lake area.

Reconnaissance survey was a pedestrian ground surface examination by HASI archeologists Kent N. Good, W. Jeffrey Kinney, James C. Dahlberg, and Wayne R. Roberson. Survey was conducted on 29 September 1981. Dahlberg returned to the area on 8 June 1982 to record and test the Chautauqua Railbed site (32RY9); the North Dakota Cultural Resource Survey (NDCRS) site form for this site is included in Appendix II. Dahlberg and John M. Kjos (HASI archeologist) again returned to the area on 20 July 1982, to fieldcheck the location of a previously recorded cultural resource site (Roberts Brickyard, 32RY211). Approximately 90 person-hours were expended conducting pedestrian survey and field reconnaissance. Related documentary research was conducted by Larry J. Sprunk, and this report was compiled by James C. Dahlberg, Wayne R. Roberson, and Michele H. Schreiner.

Overall purpose of pedestrian survey and this report is to provide data on the existence and nature of cultural resources within proposed flood control ROWS, and to make recommendations based on analysis of gathered data. Data are compiled in logical order, analyzed in proper context, and used to evaluate cultural resources with relation to proposed flood control measures. Recommendations are made through reference to guidelines from the Federal Register (36CFR1202.6--1979) concerning criteria for sites possibly eligible for nomination to the NRHP.

2. PREVIOUS ARCHEOLOGICAL AND HISTORIC STUDIES

No previous cultural resource inventories have been conducted in specific areas surveyed by HASI in September 1981; however, several inventories have been performed in immediately adjacent areas.

Henry Montgomery explored 40 mounds in eastern North Dakota and observed hundreds more between 1883 and 1906 (Montgomery 1906). Twenty-four of the 40 excavated mounds were located in Ramsey County, and at least one mound was exposed by Montgomery in Section 6, T153N, R64W. It is assumed that this mound is or was located southwest of and within 1.6 km (1 mi.) of proposed Levee No. 2; however, this mound apparently was not recorded as a cultural resource site. The mound's exact location is not known, but it is assumed that it exists or existed in the rolling uplands overlooking the Devils Lake shoreline and above the 441.9 m (1,450 ft.) elevation mark. If this mound still exists, it will not be affected by Levee No. 2 construction or related activities. Montgomery (1906) excavated at least seven mounds in Section 12, T153N, R65W, and at least four others in Section 13, T153N, R65W. These mounds apparently were constructed on the west side of Creel Bay and within 4.8 km (3 mi.) of the proposed north levee.

A preliminary investigation of the Devils Lake area was conducted by Cooper and Bauxer for the Smithsonian Institution, River Basin Surveys in 1946 (Cooper 1947). Four of the mounds reported by Montgomery (1906) and located in the NE1/4 of Section 12, T153N, R65W were recorded as site 32RY3 by Cooper in 1946 (Cooper 1947). From the sketch map drawn by Cooper, it appears that site 32RY3 is situated well above the 441.9 m (1,450 ft.) elevation level. Cooper (1947) also recorded a single mound (site 32RY2) in the NW1/4 SW1/4 of Section 6, T153N, R64W; this mound does not appear to be the same mound excavated by Montgomery (1906) in this section. Site 32RY2 is situated on a knoll, at an approximate elevation of 451.1 m (1,480 ft.). Cooper recorded a thinly scattered lithic and ceramic site (32RY1) in a plowed field in Section 6, T153N, R64W, at an approximate elevation of 445.0 m (1,460 ft.). This site, along with other sites recorded in the area by Cooper (1947), will not be affected by construction of proposed Levee No. 2 or related activities.

Oscar Mallory conducted an overall archeological appraisal of the Garrison Diversion Project in 1965, which included portions of Devils Lake (Mallory 1966). Mallory (1966) recorded an undisturbed prehistoric occupation site (32RY204) on the west side of Creel Bay and within 1.6 km (1 mi.) of proposed Levee No. 2. The site is located in the SW1/4 SW1/4 of Section 6, T153N, R64W, and it consists of "a small amount of bone, charcoal, and stone chips eroding from the topsoil zone on the highest fossil strand line of Devils Lake" (Mallory 1966). From the site sketch map, it appears that the site is situated above the 441.9 m (1,450 ft.) elevation mark; therefore, the site apparently will not be affected by Levee No. 2 construction or related activities.

Portions of the Devils Lake area were surveyed for the Bureau of Reclamation in 1975 as part of the cultural resource inventory of the central North Dakota section of the Garrison Diversion Unit. In addition

to investigating previously unsurveyed areas, the 1975 University of North Dakota Archaeological Research (UNDAR) crew (directed by Dr. Fred Schneider, and supervised by Kent Good--archeologist--and Kurt Schweigert--historian) attempted to revisit sites recorded by Cooper (1947) and Mallory (1966). The following information is reported in Schneider (1977), Schneider et al. (1977), Schweigert (1977), and in the NDCRS site files of SHSND. After revisiting the archeological sites near proposed Levee No. 2, the 1975 UNDAR crew recorded a number of cultural resource sites just west of proposed Levee No. 4, including site 32RY205 (mound site) and sites 32RY209 and 32RY210 (historic sites). These three sites are located in Section 9, T153N, R64W, within 1.2 km (0.75 mi.) of proposed Levee No. 4.

The Roberts Mound site (32RY205) consists of a single burial mound situated atop a high hill in the NE1/4 NE1/4 SW1/4 of Section 9, T153N, R64W. Human bone was observed eroding from the mound, which had been potted heavily. The mound is located 457.2 m (1,500 ft.) above MSL and is in no danger of direct or indirect impact by construction of Levee No. 4. The Roberts Farmstead site (32RY209) consists of an ice house, barn, dwelling, and wall--all constructed between 1882 and 1900. The site, which still is occupied, is located in the NE1/4 SE1/4 SW1/4 of Section 9, T153N, R64W, at an approximate elevation of 445.0 m (1,460 ft.) above MSL, and it apparently will not be affected by construction of Levee No. 4 or related activities. The Roberts Lime Kiln site (32RY210) consists of a depression dug into an ancient beach ridge--burned lime and limestone boulders are in evidence. This site is located in the SW1/4 NW1/4 of Section 9, T153N, R64W, at or above the 441.9 m (1,450 ft.) elevation mark. Like sites 32RY205 and 32RY209, site 32RY210 is located north of proposed Levee No. 4, and it will not be affected by levee construction or related activities.

Two historic sites (32RY211 and 32RY212) were recorded in Section 16, T153N, R64W by Schweigert (1977). The Roberts Brickyard (32RY211) consists of a number of depressions, refuse piles of broken brick, two wells, and the depression/outline of a structure. The location of the site was recorded erroneously as the NE1/4 NE1/4 of Section 16, T153N, R64W. HASI fieldchecked this site in July 1982, and noted that it actually is located in the NW1/4 NW1/4 NE1/4 and the NE1/4 NE1/4 NW1/4 of Section 16, T153N, R64; SHSND has been supplied this corrected location. The site is situated between 438.9 m (1,440 ft.) and 440.4 m (1,445 ft.) above MSL, and approximately 600 m (1,969 ft.) west and slightly south of proposed Levee No. 4. Associated site features will not be affected by construction of Levee No. 4, and it is believed that site 32RY211 will not be affected by related activities (such as water impoundment, wave action, or erosion). The Roberts Dugout site (32RY212) consists of three, irregularly-shaped, depressions and an area of unusually lush vegetation with deciduous forest. The site is located atop an old beach ridge of Devils Lake in the SW1/4 NW1/4 of Section 16, T153N, R64W. The estimated elevation of the site area is between 441.9 m (1,450 ft.) and 445.0 m (1,460 ft.) above MSL, and the site is situated approximately 1.2 km (0.75 mi.) from proposed Levee No. 4, and it will not be affected by levee construction or related activities.

A wide variety of cultural resources were recorded and revisited in the Devils Lake-Stump Lake vicinity (which included portions of the Upper Sheyenne River) by the UNDAR crew during the 1975 field season. This survey included portions of Ramsey, Benson, Eddy, and Nelson counties, and recorded sites consisted of 19 burial mounds, 2 tipi ring sites, 1 rock cairn site, 1 petroform site, 3 habitation sites, and 1 possible bison jump. Additionally, attempt was made to revisit 27 previously recorded cultural resource sites in the area (Schneider 1977, Schneider et al. 1977). During the 1975 and subsequent 1976 field seasons, 54 sites of possible historic significance were recorded in the Devils Lake-Stump Lake area. These historic sites included a variety of standing structures, abandoned town sites, natural objects of significance to local Indian myth and religion, frontier brick or limestone manufacturing sites, and possible remains of a military campaign (Schneider 1977; Schneider et al. 1977; Schweigert 1977).

None of the historic or archeological sites located and recorded in the vicinity of proposed flood control measures will be impacted directly or indirectly by proposed construction or related activities. It should be noted that all of the 27 archeological sites recorded or revisited in Ramsey, Eddy, Benson, and Nelson counties in 1975 and 1976 are situated at or above 441.9 m (1,450 ft.) above MSL, and 15 are situated at or above 457.2 m (1,500 ft.) above MSL (Schneider 1977, Schneider et al. 1977). All these sites are located on beach strands, knolls, or other geographic features, which are higher than the lake plain on which COE flood control measures are proposed. Specific locations of these sites on higher ground may explain the lack of archeological sites in areas surveyed by HASI in 1981.

3. ENVIRONMENTAL SETTING

3.1 GEOLOGY AND TOPOGRAPHY

The Devils Lake area is within a topographic region known as the Drift Prairie, a rolling plain formed by extension and recession of massive glacial ice sheets over the pre-existing landscape. The Pleistocene Epoch (Ice Age) began in the area about 1 million years ago, and ended with final retreat of the Wisconsin Glacier about 10,000 years ago (Bluemle 1975).

The landscape formed in the Ordovician, Jurassic, and Cretaceous geologic periods (which preceded the Pleistocene) and it was reshaped or buried by glacial action. Since the landscape is buried deep beneath glacial till, little is known about the pre-glacial history of the Devils Lake area. Through examination of the Sheyenne River cutbank, it is known that the most notable geologic strata formed during the pre-glacial period are the Dakota sandstones and Pierre shale (Trapp 1968). Many wells have been drilled in the Dakota sandstone region; these wells produce water that is highly-mineralized or saline because of the marine origin of the sandstone and the high mineral content of water that percolates down to the sandstone (Trapp 1968).

Development of the Devils Lake Basin complex, which was formed directly from glacial deposits and meltwater, is the most obvious post-glacial feature in the area (Joraanstad et al. 1977). Glacial Lake Souris was located west of Glacial Lake Agassiz, and it occupied the northern portion of North Dakota and the southern portion of Manitoba. Glacial Lake Souris was dammed to the north by a large, morainic deposit (Turtle Mountains) as the continental ice sheet melted, and the lake eventually began to drain south and east through the Mauvais Coulee and the Devils Lake/Stump Lake region into the Sheyenne River. Further glacial recession brought on eventual reduction of the lake's volume as the water supply diminished, and the watercourse between the Sheyenne River and Stump Lake dried. Former shorelines mark continual lake shrinkage since glacial periods (Joraanstad et al. 1977).

A brief description of the topography of the Devils Lake area, taken from Schweigert (1977), follows.

The present landscape of the Devils Lake region reflects several aspects of glacial activity including depositional features, outwash channels, and sand dune landforms. The most prominent of depositional features are the moraines to the south of Devils Lake and Stump Lake that now appear as high hills, and the eskers and kames of Benson and Eddy Counties. The moraines south of the two lakes were formed by the scooping up of large blocks of material, movement a short distance, and deposition of that material on top of the pre-existing landscape. The areas from which the material was taken are evident as the depressions now filled by the two lakes (Bluemle 1975:8). Other moraines in the area are evident as rolling and hilly areas, usually

covered with unsorted stones and granite boulders. Eskers and kames are caused by water flowing through or beneath glaciers, forming elongated deposits of sand and gravel (eskers) or cone-shaped deposits of sand, gravel, and other till (kames). The most easily recognized of these glacial landforms is Devils Heart, a kame that rises some 200 feet above the surrounding plain near Tokio, North Dakota (Upham 1895:157).

3.2 SOILS

Soils in the Devils Lake Basin are a direct result of glacial drift; therefore, soils are a rich vegetable loam, underlaid by a clay subsoil (Devils Lake Chamber of Commerce 1963). In general, the soils are well-drained, rich, black, and highly fertile; however, a large variety of soil types are present, which generally reflect differences in slope angle (Omodt 1968). A plate in Omodt (1968) indicates that soils associations in the specific study area consist of Barnes-Hamerly chernozems and the very limy Hamerly-Svea-Tetonka soils.

3.3 CLIMATE AND LAKE FLUCTUATION

After the retreat of the Wisconsin glaciers, the northern Great Plains entered a climatic interval known as the Hypsithermal. This interval was characterized by warm, dry climatic conditions, and it reached its extremes between 8,000 and 5,000 years before present (bp). During this period, Devils Lake and Stump Lake probably dried completely, but began to fill again about 6,000 years ago (Schweigert 1977). Through analysis of sedimentation from the two lakes, Callender (1968) concluded that between 6,000 years bp and the present, the lakes fluctuated on many occasions and reached maximum depths 4,300, 3,500, 2,300, 1,250, 1,000, 750, and 250 years ago; they reached minimum depths 6,000, 4,000, 3,000, and 500 years ago. Callender (1968) does not specify maximum elevations and/or depths of the lakes during these fluctuations, but the fluctuations appear to be related to alternating periods of dry, warm climate and wetter, cooler conditions (Callender 1968). In more recent times, Devils Lake rose steadily from about 500 years ago until around 1700 A.D., after which it declined steadily until 1940 A.D. (Babcock 1952). From 1830 until 1965, approximate lake levels according to Callender (1968) are as follows:

1830,	440.7 m (1,446.0 ft.);
1850,	439.5 m (1,442.0 ft.);
1870,	438.1 m (1,437.2 ft.);
1890,	435.9 m (1,430.0 ft.);
1910,	433.1 m (1,421.0 ft.);
1930,	430.1 m (1,411.0 ft.);
1940,	427.0 m (1,401.0 ft.);
1950,	430.1 m (1,411.0 ft.).

These figures were adapted by HASI from a graph presented in Callender (1968), and do not represent official depth readings.

In 1867, the water level of Devils Lake was approximately 438.3 m (1,438 ft.) above MSL (COE 1981). This estimated lake level is illustrated on Figure 1 in Section 1.0. It should be noted that in 1867, all the 1981 proposed flood control measure locations (with the exceptions of Levee No. 3 and Levee No. 4) would have been at least partially part of the shoreline of Devils Lake. An 1884 plat map of the Devils Lake area (Andreas 1884) indicates that the lake may have been receding, but most proposed flood control measures still would have been underwater. A 1909 plat of Devils Lake (Alden Co. 1909) illustrates that the shoreline no longer would have encompassed proposed flood control measures; however, an area approximating the 1867 shoreline is demarked with a dashed line on the 1909 map, which may indicate that the area was at least seasonally wet. Review of the 1909 map also indicates that the area within the dashed lines was uninhabited--only an area in Section 9, T153N, R64W showed ownership. The lake rose from 1940 until 1951, declined between 1951 and 1969, and rose again from 1969 to 1976 (Babcock 1952, Schweigert 1977). At present, the lake has risen to approximately 434.6 m (1,426 ft.) above MSL (COE 1981).

As noted in Schweigert (1977), the fluctuation of Devils Lake in response to successive wetter and dryer climatic conditions may have determined desirability of the area for human occupation in prehistoric times. Drought conditions, represented by falling water levels, affected most surface watercourses by concentrating alkaline or salt content in whatever water remained. This reduced ability of the region to support large numbers of game animals, on which aboriginal peoples in the area based most of their subsistence (Schweigert 1977). This phenomenon may at least partially explain why many burial mounds and other prehistoric sites have been recorded on the higher west bank of Creel Bay, while no evidence of prehistoric occupation has been found on the lake plain (i.e., within areas proposed for flood control measures). Similarly, during periods when the lake level fell sufficiently to dry these areas, the region may have been unable to support many game animals and/or vegetation because of the higher alkaline or salt content in remaining water. Consequently, the area would have been rejected by potential human occupants.

Monthly average precipitation and temperatures in the Devils Lake area between 1940 and 1975, and monthly average wind speeds and directions in the Devils Lake area during an unspecified period are presented in the following tables. Precipitation is presented in Table 1; temperatures in Table 2; and wind speeds in Table 3.

3.4 FAUNA

In 1800, Alexander Henry (fur trader for the North West Fur Company) headquartered his lower Red River operations on the Park River, near its confluence with the Red River, in present Walsh County, North Dakota. The following years, Henry moved his headquarters upriver to present Pembina, North Dakota, where he resided until 1808 (Coues 1897). During this period, Henry established wintering posts along the Park River and at various locations in the "Hair Hills" (Henry's term for the Pembina Escarpment), located along the western edge of the Red River Valley in North Dakota and Manitoba.

TABLE 1

Monthly Average Precipitation - Devils Lake, 1940-1975

<u>Month</u>	<u>Precipitation (cm)</u>
January	1.42
February	1.02
March	2.03
April	2.90
May	5.82
June	8.23
July	6.07
August	5.49
September	5.05
October	2.44
November	1.75
December	1.45
Annual	43.66

NOTE: To convert cm to in., multiply by 0.3937.

Source: (adapted from) Joraanstad et al. 1977



TABLE 2

Monthly Average Temperature - Devils Lake, 1940-1975

<u>Month</u>	<u>Temperature (C°)</u>
January	-15.46
February	-12.81
March	-6.11
April	4.47
May	11.16
June	17.15
July	20.70
August	19.68
September	13.56
October	7.48
November	-3.22
December	-11.65
Annual	3.75

NOTE: To convert °C to °F, add °C to 17.78, and multiply by 1.8.

Source: (adapted from) Joraanstad et al. 1977



TABLE 3

Average Wind Speed and Direction - Devils Lake

<u>Month</u>	<u>Direction</u>	<u>Speed (kmph)</u>
January	NW	15.6
February	NW	15.9
March	NW	17.1
April	NW	18.2
May	NE	17.2
June	SE	15.3
July	NE	13.5
August	SE	13.7
September	NW	15.0
October	NW	15.9
November	NW	16.3
December	NW	15.0

NOTE: To convert kmph to mph, multiply by 0.6214.

Source: (adapted from) Joraanstad et al. 1977 (years that wind speeds and direction were measured is not specified).



Henry's journals contain numerous entries that relate to the animal species of the region. While Henry made very few references to Devils Lake specifically, it is assumed, for the purposes of this report, that most if not all of the species observed by him also were present in the Devils Lake Basin. Coues (1897) edited Henry's journal, inserting many timely footnotes. Reid and Gannon (1929) synthesized the faunal data contained in Henry's journal and presented a detailed account of types and quantities of wildlife in the northeastern reaches of the prairie during the initial decade of the 19th century.

Among the animals recorded by Henry (Coues 1897) and identified by Reid and Gannon (1929) are: bison (Bison bison); elk (Cervus canadensis); moose (Alces alces); antelope (Antilocapra americana), very rare; muskrat (Ondatra zibethica); beaver (Castor canadensis); jackrabbit (Lepus townsendii); lynx (Lynx canadensis) most common west and north of Red River; wolf (Canis lupus); coyote (Canis latrans); red fox (Vulpus vulpus); swift fox (Vulpus velox); ermine (Mustela erminea); mink (Mustela vison); marten (Martes americana); fisher (Martes pennanti); wolverines (Gule luscus), very rare; otter (Lutra canadensis); badger (Taxidea taxus), rare; skunk (Mephitis mephitis); racoon (Procyon lotor); black bear (Ursus americanus); grizzly bear (Ursus horribilis), said by Henry to be common around Devils Lake and the upper reaches of the Sheyenne River; and white-tailed deer (Odocoileus virginianus). With the exception of bison, elk, antelope, wolverines, and bear, all species noted by Henry have been sited in northeastern North Dakota in recent years (Willis 1977).

Henry has many entries in his journal expounding on the huge numbers of bison around his Pembina post and in areas to the west (Coues 1897). The sheltered areas around Devils Lake were said to be prominent winter grounds for migratory bison herds in the 1850s (Hind 1971). Pursuit of bison herds probably was the dominant economic factor leading prehistoric and early historic Indian groups to temporarily occupy the area in and around Devils Lake. Beaver were the most economically important fur-bearing animals to fur traders, and disease and over-trapping had diminished the beaver population so drastically in the Red River/Pembina River area by 1808, that Henry was forced to abandon his operations there. By 1818, the middle Red River country and probably Devils Lake no longer were desirable places for the fur trade (Schweigert 1977).

Henry was not a naturalist, and his interest in natural history was only from the standpoint of a fur trader. He usually made reference to birds in general terms, and made no specific mention of birds in his observations of the fauna of the area. The following list of birds was extracted from Reid and Gannon's (1929) article, and it consists simply of a number of Henry's bird sitings. These sitings were made in present northeastern North Dakota between 1800 and 1818.

Larus sp. - gulls

Pelecanus sp. - pelicans

Many unspecific references - ducks

Mergus sp. - shell drake

Branta canadensis - Canadian geese (and possibly others--
Reid and Gannon 1929)

Olor sp. - swans

Ardea herodias - great blue heron (according to Henry)

Grus americana - white or whooping crane (Reid and Gannon 1929)

Bonasa umbellus - ruffed grouse (Reid and Gannon--1929--believe a reference to pheasant is a reference to ruffed grouse)

Eclopistes migratorius - passenger pigeons

Presence of large quantities of waterfowl in the Devils Lake Basin probably was a factor in selecting the area for temporary occupation in prehistoric and early historic times. Approximately 85 species of waterfowl have been reported in northeastern North Dakota during the 20th century (Willis 1977). Various grassland bird species probably were used as dietary supplements by early inhabitants of the Devils Lake area as well.

Prehistoric and early historic Indian groups who occupied the Devils Lake area also likely exploited the lakes, rivers and streams in the basin for fish. Willis (1977) presents a list of fish which presently inhabit the waterways and bodies of northeastern North Dakota, including northern pike, perch, bass, walleye, and freshwater drum.

3.5 FLORA

The Devils Lake Basin is situated within a transition zone between the semi-arid mixed grassland (to the west) and the semi-humid tall grassland (to the east) (Wali 1975). Most of what is now cultivated land in the area was a mixed grass prairie (Joraanstad et al. 1977). The most dominant tall grass was big bluestem (Andropogon furcatus). A number of medium and short grasses also were well-represented in the semi-humid tall grassland zone. Some of the more important medium grasses are slender wheatgrass (Agropyron trachycaulum), western wheatgrass (Agropyron smithii), and green needlegrass (Stipa viridula). Prairie June-grass (Koeleria cristata) is a prevalent short grass (Stevens 1950, Robinson 1966). In addition to the previously-mentioned western wheat-grass, slender wheatgrass, and slender Junegrass, the dominant species in most places on the Drift Prairie were needle-and-thread grass (Stipa comata) and blue gramma (Bouteloua gracilis).

The specific survey areas currently support at least two types of vegetative domain. The proposed north and south holding ponds and the alternate north holding pond (located adjacent the city sewage lagoon--Figure 2, Section 1.0) may be classified as wetland areas. The amount of water in a wetland area can change drastically from year to year. As Joraanstad et al. (1977) note, farmers in the Devils Lake Basin in 1976 (a dry year) were able to cultivate many wetlands that were inundated in 1975 (a wet year). The proposed south holding pond displayed furrow troughs and ridges indicative of past cultivation, when it was surveyed in 1981; however, this area was totally water-logged and even contained small pools of standing water when it was surveyed. Using the U.S. Fish and Wildlife classification, Joraanstad et al. (1977) state that a type-4 wetland conceivably could drop to a type-1 wetland in 2 years, if dry

weather persisted for that length of time. The U.S. Fish and Wildlife Wetland Classifications (from Joraanstad et al. 1977) are presented below. This list supplies a general view of the different vegetative communities present in the wetland portions of the survey area during various wet or dry years.

TYPE 1. The soil is covered with water, or is water-logged, during most of the growing variable seasonal periods, but is usually well-drained during much of the growing season. Vegetation varies according to the season and the duration of flooding.

TYPE 2. The soil is usually without standing water during most of the growing season but is water-logged within at least a few inches of its surface. Vegetation includes grasses, sedges, rushes and various broadleaved plants.

TYPE 3. The soil is usually water-logged during the growing season; often it is covered with as much as 15 cm or more of water. Vegetation includes grasses, bulrushes, spike rushes, and various other marsh plants such as cattails, arrow head, prickel [sic] weeds and smart weeds.

TYPE 4. The soil is covered with 15 cm to 92 cm or more of water during the growing season. Vegetation includes cattails, reeds, spike rushes, and often wild rice.

TYPE 5. Shallow ponds and reservoirs are included in this type. Water is usually less than 3 m deep and is fringed by a border of emergent vegetation. Vegetation (mainly at water depths of 2 m or less) includes pond weeds, naiads, wild celery, coontail, water mifails [sic], musk grasses, water lilies, and spatterdocks.

Proposed flood control measure Levees numbers 1, 2, 3, and 4 are located in areas of uncultivated grassland, which presently is used for domestic animal pastures (Figure 2, Section 1.0). There are some indications that these areas may have been cultivated at some past time.

Extensive stands of oak-elm forests are located just south of the Devils Lake study area.

The overstory of the oak-elm stands is characterized by bur oak (Quercus macrocarpa), box-elder (Acer Negundo--sic), American elm (Ulmus americana), and cottonwood (Populus deltoides--sic). The most dominant species are box-elder, bur oak and cottonwood. The understory is composed of dense shrubs and brush. The principle [sic] species include chokecherry (Prunus virginiana), hawthorn (Crataegus chrysocarpa), hackberry (Celtis occidentalis), wolfberry (Symphoricarpos occidentalis) and such annuals as Canadian thistle, cocklebur and stinging nettle (Joraanstad et al. 1977).

American Indians gathered plants for use as food, medicine, and/or for a variety of other purposes. Table 4 provides a list of vegetation possibly used by American Indians in and around the Devils Lake area. This list was compiled from review of literature (particularly Stewart and Kantrud 1971 and Stevens 1950), vegetation distribution maps, and personal observations. The list then was compared with ethnographic studies of plant use by members of the Chippewa tribe (Densmore 1928)--who exploited both plains and woodland environments--and to plant use by tribes who resided along the Missouri River (Gilmore 1919). Table 4 does not represent a complete list of all plants possibly used by American Indians in the study area through time. It does illustrate the wide variety of usable vegetation available in and around the study area, and may at least partially explain why the areas immediately outside the specific study area were chosen for temporary occupation.

TABLE 4
Vegetation Possibly Used by American Indians in Area
of Devils Lake, North Dakota

<u>Species</u>	<u>Common Name*</u>	<u>Use</u>
<u>Acer negundo</u>	box elder (WD)	food (sugar)
<u>Andropogon gerardi</u>	big bluestem (G, W)	toy arrows, medicine, earthlodges
<u>Allium textile</u>	textile onion (G)	food
<u>Anemone canadensis</u>	Canadian anemone (G)	medicine
<u>Anemone patens</u>	Pasque-flower (G)	medicine
<u>Artemisia sp.</u>	sagebrush (G)	toweling, incense, brooms, medicine
<u>Aster sp.</u>	prairie aster (G, W)	medicine
<u>Grindelia squarrosa</u>	curlycup gumweed (G)	medicine
<u>Gutierrezia sarothrae</u>	broomweed (G)	brooms
<u>Helianthus annuus</u>	common sunflower (G)	food
<u>Hierochloa odorata</u>	sweetgrass (W)	perfume, incense, weaving
<u>Lycoperdon sp.</u>	puffball (G, W, WD)	tinder, food
<u>Mammillaria vivipara</u>	bunch cactus (G)	food
<u>Mentha arvensis</u>	wildmint (W)	medicine, deodorant
<u>Monarda fistulosa</u>	mintleaf beebalm (W)	medicine
<u>Opuntia compressa</u>	prickly pear (G)	food, medicine
<u>Populus deltoides</u>	eastern cottonwood (W, WD)	general purpose wood
<u>Populus tremuloides</u>	trembling aspen (W, WD)	general purpose wood
<u>Polygonum sp.</u>	smartweed (G, W)	dye, medicine
<u>Prunus virginiana</u>	common chokecherry (G, WD)	food, medicine
<u>Psoralea esculenta</u>	tipson (G)	food
<u>Quercus macrocarpa</u>	bur oak (WD)	food, medicine
<u>Ribes americana</u>	Missouri gooseberry (G)	food, medicine
<u>Rosa sp.</u>	wild rose (G, W, WD)	famine food
<u>Sagittaria sp.</u>	arrowleaf (W)	food
<u>Salix interior</u>	sandbar willow (W)	weaving
<u>Scirpus validus</u>	softstem bulrush (W)	food, weaving
<u>Shepherdia argentea</u>	bullberry (G)	food
<u>Solidago sp.</u>	goldenrod (G, W)	fishing bobbers, gaming sticks
<u>Spartina sp.</u>	cordgrass (G)	earthlodge roofing
<u>Symphoricarpos</u>	wolfberry ("buckbrush")	brooms, mattresses, snares,
<u>occidentalis</u>	(G, WD)	medicine, food
<u>Thypha augustifolia</u>	narrowleaf cattail (W)	infants' diapers, insulators
<u>Thypha latifolia</u>	common cattail (W)	padding, medicine
<u>Ulmus americana</u>	American elm (WD)	fuel, earthlodges, general purpose wood
<u>Viola sp.</u>	violet (G)	child's gaming pieces
<u>Zizania aquatica</u>	wild rice (W)	food

*Letters denote most prominent study area habitat: G = grasslands, W = wetlands (slough), and WD = woodlands.

Sources: Densmore 1928; Gilmore 1919; Stevens 1950; Stewart and Kantrud 1971



4. REGIONAL HUMAN OCCUPATION

4.1 PREHISTORIC OVERVIEW

The Devils Lake, North Dakota, study area is situated within the spatial archeological subdivision of the Great Plains known as the Northeastern Periphery (Wedel 1961). The area is located between the Middle Missouri subarea to the west and the extreme western edge of the Eastern Woodland to the east. The James and Sheyenne river valleys of North Dakota and the Pembina River Valley in North Dakota and southwestern Manitoba are included in the Northeastern Periphery in the general Devils Lake area. While the prehistory of the Northeastern Periphery is understood poorly, considerable archeological work has been conducted in the Rock Lake area of the Pembina River in southwestern Manitoba, particularly at and near the Avery site (Hlady 1970), the Jamestown and LaMoure-Oakes areas of the James River Valley (Good et al. 1976; Good et al. 1977a,b; Schneider 1977; Vehik 1976; Wheeler 1963), and areas along the Sheyenne River Valley (Kivett 1948; Hewes 1949; Strong 1940; Wood 1971), as well as work discussed in Section 2.0, which has been conducted in the Devils Lake area. To form a cultural history of the study area, data collected from surrounding regions and data collected from the Devils Lake area have been synthesized.

The prehistoric culture of the Great Plains has been divided into major categories called cultural periods. These include: Paleo-Indian (approximately 10,000 B.C. to 6,000 B.C.); Plains Archaic (6,000 B.C. to about A.D. 1); Plains Woodland (500 B.C. to A.D. 900); Plains Village (A.D. 900 to A.D. 1780); and Plains Nomadic (A.D. 500 to historic times). There is growing evidence that late Woodland developments may have been present in the Northeastern Periphery well beyond the A.D. 900 date, and they may have continued into historic times (Syms 1970).

4.1.1 Paleo-Indian

Paleo-Indian (approximately 10,000 B.C. to 6,000 B.C.) subsistence was based primarily on exploitation of big game animals, popularly referred to as megafauna. Much of this megafauna consisted of presently extinct forms of bison, as well as mammoths and animals which now are extinct in North America (e.g., various species of horses and the camel). Smaller game and plants probably were exploited as well. While settlement was in small, temporary campsites, hunting megafauna was a communal effort, involving large numbers of people. Most Paleo-Indian sites recorded to date have been large kill sites; however, a few small Paleo-Indian campsites have been discovered.

Artifacts associated with Paleo-Indian sites typically are well-made, and consist of lanceolate projectile points, knives, choppers, and scrapers. Point types include fluted Clovis (Llano Complex), Folsom and possibly Midland (Folsom Complex), and a variety of point types such as Alberta, Plainview, Scotts Bluff, Eden Valley, and Hell Gap (Plano Complex). A private collector from Sheyenne, North Dakota (on the Sheyenne River, 32.2 km--20 mi.--south and slightly west of the project area) claims to have found a fluted point on the ground surface near

Sheyenne (Schneider 1981). Johnson (1962) states that private collectors have reported Folsom points along the James and Upper Sheyenne rivers and also along the Sheyenne Delta of Lake Agassiz. From Johnson's (1962) scant descriptions, these latter find areas probably were located from 8.1 km (5 mi.) to 32.2 km (20 mi.) east of Enderlin, North Dakota (about 160.9 km--100 mi.--south of Devils Lake).

An apparently earlier type point of the Plano Complex (Alberta point) was found near the Manitoba community of Manitou (Pettipas 1970), located in the Pembina Hills and approximately 144.8 km (90 mi.) northeast of the study area. Another Alberta point reportedly was found near Ninette on the shore of Pelican Lake (Pettipas 1970). This lake, which feeds the Pembina River, is located approximately 144.8 km (90 mi.) northwest of the study area. A Hell Gap point was found in the Glenora District of Manitoba near Rock Lake (Pettipas 1970), which is located on the Pembina River approximately 128.7 km (80 mi.) north of the study area.

While relatively few in number, Paleo-Indian sites have been recorded in the Middle Missouri area. Sites containing Paleo-Indian components and located in the Middle Missouri area include the Moe site (Schneider 1975), near the inundated town of Sanish on Lake Sakakawea in North Dakota (approximately 257.4 km--160 mi.-- west of Devils Lake), and a number of sites on or near the Missouri River in South Dakota (Ahler et al. 1974, 1977).

4.1.2 Plains Archaic

During the Plains Archaic Period (6,000 B.C. to about A.D. 1), a decline in big game dependence, probably created by extinction of the Pleistocene megafauna, brought a shift toward reliance on small game and vegetal food stuffs; smaller game included deer, antelope, rabbits, birds, reptiles, and mussels. The high incidence of grinding stones and fire-cracked rock--probably representative of roasting pits--are indicators of an increased reliance on floral materials to supplement meat diets.

Chipped stone artifacts generally were less well-made than those of the Paleo-Indian Period, and include projectile points, knives, and scrapers. Pecked and ground stone axes, milling stones, handstones, and atlatl weights became more numerous during the Plains Archaic Period. Bone awls, needles, tubes, fishhooks, and shell beads also are more in evidence during this period. Occupation areas, like those of the Paleo-Indian Period, were small encampments. Some locations show a steady occupation, while others appear to have been seasonal, intermittent occupations, and it was during the Plains Archaic Period that stone circles first made their appearance on the Northwestern Plains (Frison 1978).

Recent cultural resource inventories along or near the Little Missouri River in the Badlands areas of McKenzie and Billings counties in North Dakota have resulted in location of numerous Archaic components. The earliest known evidence of prehistoric use of the Little Missouri

Region probably is from the Oxbow specimen found at Cinnamon Creek Ridge (East et al. 1981). Oxbow points are characteristic of the early Plains Archaic Period and have been dated elsewhere from 4,000 to 5,000 bp (Loendorf et al. 1982).

The most fully-reported Archaic sites in the Northeastern Plains belong to the McKean Complex, characteristic of the middle Plains Archaic Period. This complex is represented by the McKean Lanceolate point type and the stemmed Duncan and Hanna point types. Husted (1969) indicates that the McKean Complex is represented by spear or lance points left by hunters who moved down from the foothills of the Rockies as the exceedingly dry conditions of the Alterthermal improved more than 5,000 years ago.

The first dated McKean Complex component in North Dakota was from the Fischer site, located in the southwest corner of the state. Occupation "4" at this site has been dated at 3,820 bp in association with Duncan-type projectile points (Syms 1969). Duncan and Hanna projectile points were found on the surface in North Dakota's Badlands at Cinnamon Creek Ridge (East et al. 1981) and McKean points were found in association with a radiocarbon date of 4,130 bp \pm 120 at the Ice Box Canyon site, also located in the North Dakota Badlands (Simon and Borchert 1981a).

There is a concentration of McKean Complex points around the shores of Rock Lake (Pembina River in Manitoba); such points have been found at the Lake Shore site (approximately 128.7 km--80 mi.--north of Devils Lake) (Vickers 1949) and also at the United Church site (also approximately 128.7 km--80 mi.--north of Devils Lake) (MacNeish and Capes 1958). The earliest known occupation of the Avery site (approximately 128.7 km--80 mi.--north of Devils Lake) appears to be represented by Duncan and Hanna projectile points. Joyes (1970) tentatively estimates the McKean occupation of the Lake Shore site at 1750 B.C., the McKean occupation of the United Church at slightly later than that at the Lake Shore site, and the Duncan-Hanna occupation of the Avery site at about 1500 B.C. to 1000 B.C. In the marginal Canadian plains, the terminal date of the McKean Complex has been set at about 1000 B.C., or perhaps as late as 600 B.C. (Syms 1970).

Beginning in approximately 1000 B.C., the McKean-Duncan-Hanna Phase was being replaced by the Pelican Lake Phase over much of the Northern Plains. Joyes (1970) believes that the Pelican Lake Phase was indigenous and that it grew out of the McKean component, at least in some parts of the Plains. The Pelican Lake Phase is represented most commonly by large corner-notched points, but large unnotched points are associated with the phase on rare occasions. Both point types are pre-bow; however, atlatis appear to have been in use throughout this phase (Reeves 1970).

An isolated projectile point found on the surface near Underwood has been identified as a Pelican Lake Phase point (HASI 1981). Fourteen Pelican Lake Phase points have been recovered from the Avery site (Joyes 1970), and Joyes estimates the Pelican Lake occupation at the Avery site as having occurred between 500 B.C. and A.D. 1. Pelican Lake points also

have been reported at the Calf Mountain and Shewfelt sites in Manitoba; both these sites are located in the Pembina Mountains within 160.9 km (100 mi.) north of the Devils Lake area. At least three radiocarbon dates are known for Pelican Lake occupations of the Head-Smashed-In bison jump in southeastern Alberta; these dates include 1000 B.C., 740 B.C., and A.D. 25 (Reeves 1970). The Long Creek site in southeastern Saskatchewan (located approximately 241.4 km--150 mi.--northwest of Devils Lake) contains a large Pelican Lake component, which was dated at around 700 B.C. (Wettlaufer and Mayer-Oakes 1960). A Pelican Lake component also is present at the Mortlach site in south-central Saskatchewan (Wettlaufer 1955). At the Ice Box Canyon site, Pelican Lake points were found in association with radiocarbon dates ranging from 2,670 bp \pm 70 to 1630 bp \pm 80 (Simon and Borchert 1981a), and Pelican Lake points also were found in the Badlands at the Sunday Sage site (Simon and Borchert 1981b).

While sites representing the Archaic Period are not well known in the Middle Missouri subarea, recent field research has disclosed location of a few such sites on or near the Missouri River in North Dakota and South Dakota. The Moe site, which contains a Paleo-Indian component, also contains a Plains Archaic component. Other sites on or near the Missouri River in North Dakota that contain Plains Archaic components are Rock Village (32ME15) located near the Garrison Dam (Hartle 1960), the Elbee site (32ME408) located in the Knife River Indian Villages National Historic Site (Ahler 1978), and a number of sites located at Cross Ranch in Oliver County, North Dakota (Weston et al. 1980). During a shoreline survey of Lake Sakakawea in Dunn County, North Dakota, an Archaic site (32DU407) and two isolated finds of Archaic projectile points were discovered (Leaf 1976). Archaic or "Archaic-like" points have been found in possible association with Knife River flint quarry sites in Dunn County (Loendorf et al. 1976), and Plains Archaic components are present with Paleo-Indian components at the Travis 2 site (Ahler et al. 1977) and the Walth Bay site (Ahler et al. 1974) along the Missouri River in South Dakota.

4.1.3 Plains Woodland

Very little is known about the Plains Woodland Period, which existed from approximately 500 B.C. to A.D. 900. The most visible Woodland traits in the Northeastern Periphery are burial mounds and the physical remains indicative of the introduction of ceramic vessels. There is growing evidence that Plains Woodland peoples supplemented their diets of wild game (predominantly deer and bison) and wild vegetal food stuffs with cultivated crops. Remains of semi-permanent house structures suggest a semi-permanent way of life.

Although the area Woodland peoples left in coming to the Devils Lake area is not understood clearly, various human populations and associated events may have occurred in and around the area during the Plains Woodland Period. The following is a presentation of various theories and archeological evidence about the Woodland Period; however, it does not include archeological interpretations.

Archeological evidence of occupation by early Woodland Period (500 B.C. to A.D. 1) peoples is totally lacking west of the Red River; rather, it appears that the Mississippi River forms the main western boundary of the early Woodland movement (Syms 1977). An early Woodland component is reported, however, at the Graham Lake Mound site I in west-central Minnesota (Johnson 1969).

The earliest dated burial mound in North Dakota (site 32BA1, Mound A) was found north of Valley City (Kivett 1948, Hewes 1949), approximately 136.8 km (85 mi.) southeast of Devils Lake. This mound has a radiocarbon date of A.D. 90 \pm 150 (Neuman 1975). Joyes (1970) suggests that projectile points associated with site 32BA1 represent the Besant Phase, and recent research has placed the site in the Sonota Burial Complex (Neuman 1975). Whether the manufacturers of Besant tools also are responsible for construction of Sonota Complex burial mounds has not been determined definitely. A discussion of the Besant Phase, and the Sonota and Arvilla complexes is provided below.

The Besant Phase, which appears to be restricted geographically to the Northern Plains, first began to appear in the Middle Missouri Region in or about A.D. 1 (Neuman 1975). This phase is characterized by side-notched points of greatly varying sizes. A marked preference for use of Knife River flint in manufacture of these points and in manufacture of associated tools is noted (Reeves 1970). The Besant Phase is viewed as a time of great transition in the Northern Plains. It is during this time period, and in apparent association with Besant point types, that pottery first appeared in the region, and sometime between A.D. 1 and A.D. 800, the atlatl was replaced by the bow and arrow on the Northern Plains (Reeves 1970).

The source of the Besant Phase is not understood clearly. Reeves (1970) believes it to be a separate Plains-adapted cultural tradition, which had been resident in the Northeastern Periphery since late Archaic or early Woodland times (1000 B.C. to 500 B.C.); Husted and Mallory (1967) favor the Boreal Forest of the north. The hypothesized termination date for the Besant Phase is around A.D. 800 (Reeves 1970).

A radiocarbon date of A.D. 300 \pm 50 was taken from a hearth, apparently associated with a Besant point, at the Sunday Sage site in the North Dakota Badlands (Simon and Borchert 1981b). The Besant Phase is well-represented at the Avery site, where this occupation has been estimated at A.D. 300 to A.D. 500 (Joyes 1970). Joyes (1970) believes that Besant type points at the Avery site are associated with Avery Corded pottery ware and that the Besant Phase may be derived from the Woodland tradition cultures to the southeast. He also hypothesizes that the apparent scarcity of Besant pottery on the northwestern Plains may be the result of a population, which gradually discontinued making pottery as they moved farther out onto the Plains.

There is some evidence to indicate that--compared to human population during the Pelican Lake Phase--there may have been an increase in human population in the Northern Plains during Besant times (Joyes 1970). In southwestern Manitoba, "Besant Phase campsites appear to represent

fairly lengthy or repeated occupations by moderately large groups. Nomadic bands were probably the rule as far as social organization was concerned, with seasonal multi-band groupings for communal bison hunts" (Joyes 1970). Apparently nothing is known about Besant Phase habitation structures in southwestern Manitoba. In Alberta, tipi rings have been associated with both summer and winter campsites of Besant tool makers (Reeves 1970). At the Mortlach site (Wettlaufer 1955), in south-central Saskatchewan, a post-mold pattern was found which is very similar to those from a Woodland-type structure at the LaRouche site on the Missouri River in central South Dakota (Hoffman 1968).

The Sonota Complex is based primarily on observations and analyses of excavated materials from a number of apparently related burial mound sites. The majority of these sites are located in North Dakota, South Dakota, and southern Manitoba. Neuman (1975) defines the complex as displaying: 1) an important emphasis on bison use; 2) a predominance of tools made from Knife River flint; 3) upright bones in village and kill sites; 4) small burial mounds containing numerous bison remains, as well as multiple bundle burials; and 5) a distinctive variation of corner-notched projectile points that subsume Besant and Samantha side-notched types.

Long, domed mounds characteristic of the Sonota Complex average 22.9 m (75 ft.) in diameter, 0.8 m (2.5 ft.) to 0.9 m (3.0 ft.) in height, with rectangular central pits lined or partially lined with logs. Burial goods include distinctive pottery types, diagnostic corner-notched projectile points, gravers, knives and worked flakes. Occasional offerings include obsidian scrapers and bifaces, beads made from exotic materials, bear canines, imitation bear canines, and a shell thunderbird (Neuman 1975).

Among Sonota Complex sites recorded in North Dakota are 32BA1 (near Valley City); the Schmidt Mound site (32M020, south of Bismarck); and the Boundary Mounds site (32SI1), Alkire Mound (32SI200), and Porcupine Creek Component (32SI6, an occupation site), all located on the Missouri River and just north of the North Dakota/South Dakota border. Other sites assigned to the Sonota Complex, including the Stelzer Village site, are located along the Missouri River near Mobridge and south of Pierre, South Dakota (Neuman 1975). A series of Sonota Complex sites in the Killarney Locality of the Pembina Valley region in southern Manitoba (approximately 120.7 km--75 mi.--northwest of Devils Lake) have been reported by Syms (1977), along with the Richards Kill and Richards Village sites in southwestern Manitoba. Syms (1977) also places the High Butte site (32ME13), in Mercer County, and the Indian Hill site (32MZ22), near Williston but located in McKenzie County, in the Sonota Complex.

Dates for the Sonota Complex cluster between 100 B.C. and A.D. 1000 at one standard deviation, and 1 A.D. to 800 A.D. if the central dates are considered (Syms 1977). Neuman (1975) and Syms (1977) basically agree that the Sonota Complex reflects derivations transmitted westward by Woodland Hopewellian societies, known primarily from sites recorded east and southeast of the north-central Plains. One factor in the diffusion that Neuman (1975) sees as being both directly and indirectly

transmitted is the accessibility of the Sonota people to Knife River flint and grizzly bear teeth. Joyes (1970) apparently sees a direct relationship between what now is referred to as the Sonota Complex and the Besant Phase. Neuman (1975) points to parallels in the two cultures, such as similar subsistence bases and contemporaneous site dates, but apparently does not feel they represent the same people. Syms (1977) places the Sonota Complex and the Besant "Horizon" into what he terms the early Village, as opposed to middle Woodland, Configuration. Based on what he perceives as differences in projectile point morphology, choice of raw materials, and categories of tools, Syms (1977) believes that Sonota and Besant represent separate units.

The Arvilla Complex is based solely on the consistent, re-occurring patterns of a number of burial mound sites in a geographic area extending from the St. Croix River Valley in east-central Minnesota, west to the Red River Valley, north along that river to the Pembina Plain, and to the Winnipeg area (Johnson 1973). Some of the mounds at the Fordville Mounds site along the Forest River in Walsh County have been placed in the complex, as well as the Arvilla Mounds on the Turtle River in Grand Forks County (Johnson 1973). The Fordville Mounds site is located approximately 88.5 km (55 mi.) east and slightly north of Devils Lake, while the Arvilla Mound site is situated about 112.6 km (70 mi.) southeast.

Major traits of the Arvilla Complex include: 1) linear and circular mounds; 2) subsurface burial pits; 3) frequent use of yellow and red ocher; 4) flexed and disarticulated primary and bundled secondary burials; 5) associated utilitarian and ornamental grave goods, dominated by bone and shell artifacts, prairie side-notched and broad side-notched projectile points, blade side scrapers of brown chalcedony, and mortuary vessels of St. Croix-stamped or Blackduck ware (Johnson 1973). The Arvilla Complex contains an artifact assemblage that is northern, and the intrusion of marine trade goods of southern origin should not obscure that fact (Johnson 1973). No single trait is restricted to this complex; it is the particular, consistent, re-occurring combination of the above traits that makes it distinctive. The Arvilla Complex developed rapidly about 500 A.D. to 600 A.D. and disappeared in the southern portion of its geographic area by A.D. 900; however, it may have continued for several centuries in the Red River Basin in Manitoba (Johnson 1973). Syms (1979) believes that the Arvilla Complex persisted until approximately A.D. 1400.

There is growing evidence that Woodland or Woodland-like traditions persisted in the Northeastern Periphery possibly to historic times; these peoples probably lived in Plains-adapted, localized groups. Presently, there is scant archeological data pertaining to specific lifeways of these people, and few, if any, attempts have been made to synthesize available data.

4.1.4 Plains Village

People of the Plains Village Period (A.D. 900 to A.D. 1750) exploited the Middle Missouri subarea. Subsistence patterns included cultivation of maize, squash, and beans in the Missouri bottom, and bison

hunting on the upland grasslands (Ahler et al. 1979). Plains Village people lived for much of the year in earthlodge villages, most usually located along the Missouri River.

There is relatively little archeological evidence of Middle Missouri Tradition or Coalescent Tradition influences on the Northeastern Plains Periphery; however, this may reflect the scant amount of archeological work performed in the region to date. Recent research suggests that much of the prehistoric cultural activity in the Devils Lake vicinity took place roughly between A.D. 900 and A.D. 1400, which corresponds temporally with the initial portion of the Plains Village Period. Syms (1979) feels that many of the burial mounds which exist, or once existed, near Devils Lake were built by Siouian peoples and that they manifest a strong Mississippian Tradition influence. Johnson (1973) has made no attempt to assign the mounds around Devils Lake to the Arvilla Complex and Neuman (1975) does not suggest that these mounds are associated with the Sonota Complex. Montgomery (1906) made no attempt to assign the features to a cultural affiliation, and Cooper (1947), Mallory (1966), Schneider (1977), and Schneider et al. (1977) at most assigned various mounds to the "Woodland Culture." Consequently, Syms (1977) is the only archeologist known to have assigned some of the mounds around Devils Lake to a specific burial complex--the Devils Lake-Sourisford Burial Complex (Syms 1979). Since no village sites have been recorded in the Devils Lake area, a few of the village sites which have been investigated in the Northeastern Periphery along with their possible relationship with the Devils Lake area are discussed below.

Syms (1979) theorizes that a separate, strongly Mississippian-influenced burial complex developed on the northeastern Plains, immediately west of the Arvilla Complex, at about A.D. 900. Syms terms this the Devils Lake-Sourisford Burial Complex (DL-S Burial Complex). This complex is confined to an arc on the northeastern Plains between the Aspen Parkland and the Missouri Coteau. The greatest concentration of sites occurs in the region of Devils Lake, and in the Sourisford Locality of southwest Manitoba (approximately 193.1 km--120 mi.--northwest of Devils Lake). Most of the finds from the Devils Lake region were from excavations performed by Montgomery (1906); other sites assigned by Syms (1979) to the DL-S Burial Complex are the Star, Sims and Calf Mountain mound sites on the Pembina River in Canada, just north of the North Dakota/Manitoba border and in the previously-mentioned Rock Lake and Pelican Lake localities in Manitoba. It should be mentioned that Johnson (1973) tentatively assigned these three sites to the Arvilla Complex.

While Syms (1979) lists numerous traits shared by the DL-S Burial Complex and the Arvilla Complex, he suggests that differences between the two complexes outweigh similarities. He indicates that Arvilla Complex burials had much lower frequencies of mortuary vessels, all of which represent distinctly different late middle Woodland and late Woodland-type pottery. Syms (1979) also states that Arvilla Complex burials contain items such as copper awls and ornaments, barbed harpoons, and distinctive types of pipes, which are rare or non-existent in DL-S burial mounds. Distinctive burial goods associated with the DL-S Burial Complex include miniature, smooth mortuary vessels, sometimes decorated with

incised thunderbird designs and/or raised lizzards or salamanders; welk shell (marine snail) masks/gorgetts; "cigar holder-shaped" tubular pipes; and engraved stone tablets (Syms 1979).

People who constructed DL-S mounds were nomadic bison hunters who moved in a seasonal cycle involving wintering in the Aspen Parkland and sheltered valleys, and summering on the plains. Syms (1979) believes that they may have practiced some horticulture during the spring and fall. According to Syms's cyclical theory, complex-associated mounds in the Devils Lake vicinity would represent spring burials of persons who had died during the winter; this corresponds with people and bison migrating from sheltered, wooded areas out onto the open plains. Syms (1979) continues that the DL-S Burial Complex consisted of Siouian group(s), influenced by Mississippian and Middle Missouri developments, living during the period A.D. 900 to A.D. 1400, and he also states that remnants of traits of the complex persisted into protohistoric and historic periods.

The only village site that Syms (1979) has assigned tentatively to the DL-S Burial Complex to date is the Hendrickson III site (32SN403), located on the James River, approximately 160.9 km (100 mi.) south and slightly east of Devils Lake (Good et al. 1977b). This site has a fortification ditch surrounding three circular house depressions, and two circular and two square-to-rectangular depressions are situated outside the ditch. This is the only fortified village site of this type recorded in the James River Valley, and three radiocarbon dates from the site have been averaged to provide a date of A.D. 1421. Based on results of site testing (Good et al. 1977b), it has been suggested that the site is related temporally and culturally to the early Extended Coalescent Variant of the Coalescent Tradition (Good et al. 1977b, Schneider 1977).

An unfortified village of earth-covered, circular lodges (site 32SN3) was excavated during the summers of 1952 to 1954 (Wheeler 1963). The site was situated approximately 4.0 km (2.5 mi.) west of Jamestown, but has since been inundated by waters from the Jamestown Dam. Wheeler (1963) placed the site within the Stutsman Focus which he believes to represent the early Historic Period, dated circa A.D. 1750 to 1800. This date is subject to speculation, since it is based on a few pieces of metal with suspect site association. Ceramic sherds from this site have been identified tentatively as early Hidatsa (Wheeler 1963). According to Hidatsa legend, the tribe migrated from far east and lived for a time in a village on an island on Devils Lake (Will 1924). While archeological evidence of this particular village has not been found, some of the ceramics from the Sharbono site (32RY419), located near Long Lake and approximately 19.3 km (12 mi.) south of the project area, are similar to pottery recovered from site 32SN3. The occupation of the Devils Lake area by Hidatsa probably was considerably earlier than the protohistoric or historic dates indicated in Wheeler's (1963) James River investigation results (Schweigert 1977).

The Biesterfeldt site (32RM1) is a large fortified earthlodge village situated on the Sheyenne River, approximately 209.2 km (130 mi.) southeast of Devils Lake. The site was excavated under the direction of

William Strong in 1938; Strong's artifact and feature descriptions were published two years later (Strong 1940). Wood (1955) analyzed the ceramic collection from the site in 1954, and in 1971, the Smithsonian Institution published Wood's evaluation (Wood 1971). Site 32RM1 was placed on the NRHP on 2 August 1980.

Strong (1940) identified the site as a late 18th century Cheyenne village; he relied heavily on ethnohistorical documentation to develop this identification (Hayden 1862; Riggs 1863 in Wood 1971). Archeological evidence was found at Biesterfeldt to indicate that village inhabitants possessed horses (Strong 1940); this corresponds with Chippewa tradition, which contends that the Cheyenne village on the Sheyenne River (which was attacked by the Chippewa) included many horses (Tyrrell 1916). After excavation of the site in 1938, Strong (1940) stated that "vegetal remains have not yet been identified but consist of what appears to be maize, numerous seeds, and a considerable amount of birchwood." Wood (1971), however, states that no such material was available in the collection when he analyzed it in 1954. Wood (1971) indicates that Strong (1940) was "led to identify Biesterfeldt as Cheyenne based on circumstantial evidence alone." Wood does concede that "the Cheyenne occupied the Sheyenne River at the time the site is dated." Since no other lodge villages have been found on the Sheyenne River to date, Wood (1971) indicates that Strong was lead (1940) to choose "the most economical solution to its [the site's] identity."

Wood (1971) states that there can be no doubt that the Biesterfeldt site is part of the Post Contact Coalescent of the Plains Village Pattern; "it is a protohistoric village of sedentary, village dwelling horticulturalists and hunters. . .superficially all but identical to those of contemporary Mandan, Hidatsa, and Arikara settlements." While Strong (1940) stated that Biesterfeldt ceramics are related to Woodland or "northeastern type," Wood (1971) contends that Biesterfeldt pottery is "closely related to those of the Arikara and other sedentary Missouri River tribes."

4.1.5 Plains Nomadic

At least on the Northwestern Plains, a shift from the Plains Archaic subsistence pattern of smaller game exploitation to a pattern of big game hunting marked the advent of the Plains Nomadic Period (A.D. 500 to historic times). Introduction of the bow and arrow and increased numbers of bison were instrumental in bringing about this change. Plains Nomadic projectile points typically are small and side-notched. Presence of stone circles (generally believed to represent tipi dwellings) traditionally is regarded as indicative of Plains Nomadic culture; however, there is considerable evidence that more sedentary peoples (i.e., Plains Woodland and Plains Village people) also used tipis during hunts.

The Avonlea Phase is represented by small, delicate projectile points. First appearing as corner-notched points, perhaps at such sites as Head-Smashed-In in Alberta (Reeves 1970), they apparently were soon replaced by the more familiar Avonlea Phase side-notched points (Kehoe

1966). A gradual transition from atlatl to bow and arrow is not represented by Avonlea points, which may suggest that this transition was very rapid on the Plains or that it took place elsewhere--possibly in the Rocky Mountains (Reeves 1970). It is possible that Besant peoples were introduced to the bow and arrow by Avonlea peoples (Reeves 1970), but in contrast to the Besant Phase, Avonlea peoples rarely used Knife River flint (Syms 1977).

While pottery rarely is associated with Avonlea Phase sites, Joyes (1970) believes that simple-stamped Truman Plains Rim ware may be representative of the Avonlea component at the Avery site (located approximately 128.7 km--80 mi.--north of Devils Lake). Syms (1977) rejects this statement, because he suggests that stratigraphic control was lacking during investigation of the Avery site. Elsewhere, Avonlea ceramics are characterized by fabric-impressed, bossed or punctated, concoidal vessels, and possibly dentate-stamped and cord-marked sherds (Kehoe 1959). Very little is known about the Avonlea burial system. There is no remaining evidence of Avonlea burial mounds, and in the Powder River area of Wyoming and Montana, Avonlea burials are characterized by primary pit burials with many ornamental and utilitarian grave goods (Reeves 1970). Avonlea peoples apparently were very dependent on bison, as attested to by the large number of bison kill sites containing Avonlea points (Joyes 1970). While most of these kill sites were pounds, a few have been reported to represent actual jumps (Davis 1966). Avonlea campsites appear to be fairly small, temporary camps of nomadic tribes people. Seasonally, these people appeared to be settled in multi-band groups in order to hunt bison communally (Joyes 1970). Although Reeves (1970) suggests use of the tipi, little is known about Avonlea habitation structures.

The origin of the Avonlea Phase is not understood clearly at this time. Kehoe (1966) points to the one-time caribou-driving Athabascans to the north, while Husted and Mallory (1967) suggest an affiliation with peoples of the Middle Missouri region. Reeves (1970) suggests that the Avonlea Phase is a Plains-adapted culture, which followed the Pelican Lake Phase.

Avonlea sites have a broad distribution on the Northern Plains, occurring quite frequently in eastern Montana, and southern and central Saskatchewan. Evidence of Avonlea occupation also is present in northern North Dakota and southern Manitoba. The Avonlea Phase is well-represented at the Avery site (Joyes 1970), which appears to be the only Avonlea Phase site recorded with any proximity to the Devils Lake area (being about 128.7 km--80 mi.--north of that area). The Avonlea Phase has initial dates of A.D. 90 \pm 120 at the Head-Smashed-In site in Alberta (Reeves 1970) and A.D. 210 \pm 60 at the Gull Lake site in southwestern Saskatchewan (Kehoe 1966). Reeves (1970) suggests an initial date for the Avonlea Phase in the Upper Missouri-Black Hills and southwestern Manitoba areas at A.D. 400 to A.D. 500, with a termination date of A.D. 650 to A.D. 700 in southwestern Manitoba, but as late as A.D. 900 in the Upper Missouri-Black Hills areas. These dates indicate that Besant and Avonlea phases were at least partially contemporary.

During a 1975 survey of the Devils Lake area (Schneider et al. 1977) (see Section 3.0), only 2 tipi ring sites were recorded, compared with 19 burial mound sites. These figures are somewhat biased, however, since most of the burial mound sites had been recorded previously, and they were sought out purposely during the 1975 survey. A more representative comparison of tipi ring to burial mound sites in eastern North Dakota can be noted in a James River area study (Schneider 1977). Fourteen (14) tipi ring sites compared with 32 burial mound sites were recorded in the Jamestown and LaMoure-Oakes areas along the James River Valley, south of Devils Lake. While these figures from eastern North Dakota indicate that nomadic hunters were present in this portion of the state, peoples representing the pure Plains Nomad were more numerous in areas farther west in North Dakota, where several hundred tipi ring sites have been recorded.

4.1.6 Discussion

No Paleo-Indian, Plains Archaic, Woodland, Plains Village or Plains Nomadic cultural resources were located or recorded during conduct of HASI's 1981 survey. As indicated in Section 2.0, all archeological sites recorded or revisited in the general Devils Lake area during previous cultural resource projects are situated at or above 441.9 m (1,450 ft.) above MSL. In other words, all previously recorded archeological cultural resource sites in the general Devils Lake area are located on beach strands, knolls, or other geographic features, which are higher than the lake plain on which COE flood control measures are proposed. Specific locations of these sites on higher ground provides some explanation for the lack of archeological sites in areas surveyed by HASI in 1981.

4.2 HISTORIC INDIAN OCCUPATION OF THE REGION

4.2.1 Dakota

Indian groups most synonymous with the Devils Lake Basin in the historic period were the Yanktonai, Sisseton, and Wahpeton tribes of the Dakota. These tribes, along with the Yankton, formed a middle group between the Santee or Eastern Dakota and the Teton Dakota (to the west) (Schweigert 1977).

Legend indicates that all seven tribes of the Dakota descended from one group, the Mdewakanton, who lived near the Mille Lacs area in central Minnesota (Woolworth 1970), and the seven tribes are said to have met in council each year (Keating 1959). The Dakota and Chippewa were at nearly constant war with each other, and the latter group (having the advantage of firearms) represents a major factor in the southerly and westerly migration of the Dakota. At least as early as 1750, the Yanktonai, Teton, and Yankton were beginning to reside predominantly on the Plains. By 1785, the Sisseton and Wahpeton were contacts between the French traders at Fort Huillier (present-day St. Paul) and the Teton Dakota (Schweigert 1977).

In 1804, William Clark reported that the Sisseton and Wahpeton were

trading with a man named Cameron at the head of the Minnesota River, and that they were meeting Teton and Yanktonai at an annual trade fair somewhere on the James River (Thwaites 1904-1905). In 1823, Major Steven Long (on an expedition to determine the international boundary) traveled down the Minnesota River (then St. Peter's River) and northward through eastern North Dakota, to present-day Pembina (Keating 1959). Long observed that at that time the largest single tribe occupying the area from the Red River as far north as the mouth of the Pembina River, and westward to the Missouri River, was the Yanktonai tribe; this area included the general vicinity of Devils Lake.

The Sisseton and Wahpeton resided nearer Lake Traverse (in extreme northeastern South Dakota) and eastward (Keating 1959), but probably ventured west for trading expeditions. Yanktonai peoples were joined on their hunts by the North or Upper Sisseton, who separated from the South Sisseton after an altercation (Murray 1952, Keating 1959). Under Waneta and later Standing Buffalo, the Yanktonai and Upper Sisseton groups grew more dependent on nomadic bison hunting and no longer grew sufficient corn to sustain themselves during lean years (Schweigert 1977). The Wahpeton also were occasional hunters in the Devils Lake area, especially during the drought of 1839 and 1840 (Murray 1952).

Five settlers were murdered by a small Santee hunting party at Acton, Meeker County, southern Minnesota, on 17 August 1862 (Carley 1976). This was the initial act in an event known variously as: the Sioux Uprising, the Sioux Massacre, and the Sioux War, of 1862. Between the time of the Acton incident and the final surrender of the Sioux at Camp Release (Lac Qui Parle County, Minnesota) on 26 September 1862, 450 to 800 white settlers and soldiers were killed (Carley 1976). The battles and killings basically were confined to the Minnesota River region of southern Minnesota. Conflicts nearest the Devils Lake study area involved two attacks of Fort Abercrombie (located on the west side of the Red River, approximately 289.6 km--180 mi.--southeast of Devils Lake), one on 3 September 1862 and the other on 6 September 1862.

Reasons for the 1862 uprising are numerous and complex; tensions had been building many years prior to the armed conflict. The main reason for the war probably is related to dissatisfaction which grew from land sales by the Santee to the U.S. Government in the 1851 Treaty of Mendota; the Sioux ceded a total 9.7 million ha (24 million ac.) of rich farmland to the U.S. Government in the 1850s (Carley 1976). The 1851 treaties of Mendota and Traverse des Sioux left the Sioux with two reservations on the Minnesota River in what was to become southern Minnesota. The Upper Sioux (Wahpeton and Sisseton) generally were satisfied with their reservation, because they were able to retain their old villages. The Lower Sioux (Santee) were dissatisfied with their reservation, however, because they had to abandon their villages and hunting territories in the woodland areas of Minnesota, and resettle in the prairie environment of the upper Minnesota River (Carley 1976). Violation of two treaties signed in 1858 futhered tensions. Through these two treaties, the Upper and Lower Sioux sold additional land to the U.S. Government, but the Indians never received promised retribution for the land (Bouler 1944).

Another factor leading to the Sioux War of 1862 was congressional passing of the Homestead Act earlier that year. The lure of free land brought thousands of settlers into Minnesota, and "the 1862 revolt was simply the last stand of the Sioux against the white men for possession of their native land" (Bouler 1944). Finally, the nation's involvement in the Civil War provided at least an indirect cause for the 1862 revolt. Many whites had traveled to southern battlegrounds when the first rumors of trouble in Minnesota reached military authorities. All available munitions were being poured into the Civil War effort, and problems in Minnesota were left to be settled later (Bouler 1944).

Even after the Indian surrender at Camp Release on 26 September 1862 and execution of 38 Sioux leaders at Mankato on 26 December 1862, most Minnesotans remained enraged over the Indian war. "Incited by a resentful press, white Minnesotans were not disposed to distinguish between hostile and friendly Indians" (Carley 1976). Under these conditions, it is inferred that most Sioux residing in or near the present study area must have felt it best to leave north to Canada or to locations farther west on the open prairie.

Establishment of the Devils Lake Reservation for the Cut Head Yanktonai and North Sisseton-Wahpeton groups in 1867 was a direct result of the 1862 Minnesota uprising. Fort Totten also was established at Devils Lake in summer 1867, as part of a chain of military forts intended to protect the overland route from St. Paul to the Montana and Idaho gold fields (DeNoyer 1910). When the Devils Lake Reservation was established in 1867, no Indians were residing at Devils Lake and the Dakota that were in the region were suspicious of the intent of the army stationed at Fort Totten (Schweigert 1977). While many Dakota began to settle on the Devils Lake reservation in 1868, agent mismanagement, coupled with the disappearance of bison herds around Devils Lake, caused many Indians to retreat again to the Missouri River or north into Canada (Schweigert 1977).

Establishment of a resident agent at Fort Totten and advance of railroad supply lines to Fort Seward (near present-day Jamestown) finally enticed Yanktonai and North Sisseton to resettle on the Devils Lake Reservation (Schweigert 1977). In addition to the Yanktonai and Sisseton, some Wahpeton, Wahpekute, and Mdewakanton settled on the reservation (Albers 1974).

4.2.2 Chippewa

Chippewa occupation of the Devils Lake area appears to have been intermittent (Schweigert 1977). While parties of Chippewa may have entered the region by 1680, attempts at permanent occupation were made as a result of fur trade expansion from present-day Minnesota to the Red River and beyond, and probably were not made until after 1800 (Kellogg 1917, Schweigert 1977). The earliest known evidence of Chippewa trade activity in the Devils Lake area was in or around 1791 when Chippewa, accompanied by a North West Company trader named Reaume, were attacked by Dakota on the Sheyenne River (Coues 1897).

In 1800, North West fur trader Alexander Henry, Jr., established a trading post near the confluence of the Red and Park rivers in present Walsh county. The following spring, Henry moved his headquarters to present-day Pembina and resided there permanently until 1808 (Coues 1897). The Pembina post became a center of activity for a body of Chippewa numbering as many as 400 (Coues 1897). These Chippewa hunted as far west as the Turtle Mountains and south to the Wild Rice River in southeastern North Dakota (Schweigert 1977). While an abundance of game, including beaver and grizzly bear, were known to inhabit the Sheyenne River just south of Devils Lake, the Chippewa did not hunt there for fear of Dakota attack (Coues 1897, Hickerson 1956).

In 1808, Henry (who was experiencing strong competition from other fur traders and their accompanying groups of Indian hunters) abandoned his Pembina post. Hunting and disease had eliminated beaver almost completely from the area (Coues 1897). By 1818, the middle Red River Valley, and probably the Devils Lake area, were no longer desirable places for fur trade (Schweigert 1977).

Many Chippewa who resided in northeastern North Dakota had lived in villages in the Leech Lake and Red Lake areas of north-central Minnesota. Most of these people returned to their villages and became associated with the Red Lake Band of Chippewa (Schweigert 1977). Others continued to reside in present North Dakota, and in 1863, the U.S. Government recognized a Pembina Band of Chippewa Indians (Kappler 1972). Some members of the Pembina Band continued to inhabit the Turtle Mountains after 1863, and in 1882, a reservation was provided them by executive order. The Turtle Mountain Band claimed a huge area, beginning at Devils Lake and extending north and west. They relinquished their claims to this large area of land through the Agreement of 22 October 1892 (Horr 1974 in Schweigert 1977). During the 19th century, the Chippewa apparently made attempts to occupy the Devils Lake area permanently, but they were repelled consistently by the Dakota who also claimed the area (Schweigert 1977).

4.2.3 Cheyenne

During the middle to latter part of the 18th century, a segment of the Cheyenne tribe is thought to have resided in an earthlodge village (the Biesterfeldt site) along the Sheyenne River in the southwest portion of present North Dakota (Strong 1940, Wood 1971, Grinnell 1972) (see discussion in Section 4.1.4). Schweigert (1977) notes a similarity in ceramic morphology between pottery sherds collected from the Devils Lake area and those collected from the Biesterfeldt site.

Presently, there is no concrete evidence of occupation of the Devils Lake region by the Cheyenne. Alexander Henry was informed by his Chippewa hunters that Chippewa tribal tradition attributed the names of the Sheyenne River to the Cheyenne tribe, who were expelled from the Devils Lake area about 1760, possibly by the Dakota or Assiniboiné (Coues 1897).

There is some evidence that the Dakota may have referred to the

Cheyenne as the "Snake Indians" (Schweigert 1977). Peter Pond operated a fur trading post on the Minnesota River from 1773-1775, and he dealt with the Dakota. Pond produced a series of maps between 1785 and 1787, which were based largely on data gathered from Dakota informants. One such map illustrates what appears to be Devils Lake, and it indicates the presence of the "Snake Indians" in the immediate vicinity (Schweigert 1977).

4.2.4 Hidatsa

According to Hidatsa legend, the tribe migrated to the Missouri River from far to the east and lived for a time in a village on an island on Devils Lake (Will 1924). Ceramic sherds found at the Sharbono site (32BE419), just south of Devils Lake, display similarities with pottery sherds discovered in the James River Valley that have been identified tentatively as early Hidatsa (Schweigert 1977, Wheeler 1963). Wheeler (1963) placed the date of manufacture of the James River pottery at between A.D. 1750 and A.D. 1800, but he based this speculation on a few pieces of metal that are not associated definitely with the pottery. Schweigert (1977) suggests that the traditional Hidatsa village at Devils Lake was occupied before the dates suggested for the James River pottery.

4.2.5 Assiniboine

Assiniboine are a large Siouian-speaking tribe, originally a part of the Yanktonai. The split from the parent stem must have happened prior to 1640 (Hodge 1907), when the Assiniboine were mentioned as representing a totally distinct group. In historic times, the Assiniboine resided primarily in present southern Manitoba, Saskatchewan, and northwestern North Dakota. That these people may have occupied the lower Red River area and points west is illustrated by the fact that the Park River is said to be named for a "park" constructed near that river by the Assiniboine to capture bison (Coues 1897). By legend, a group of Cheyenne are said to have encountered a lake with trees growing in it at the edge of the plains (Grinnell 1956). Schweigert (1977) suggests that this lake may have been Stump Lake. Immediately after leaving this lake, the Cheyenne are said to have been attacked by Assiniboine (Grinnell 1956). If the theorized geographic location (Stump Lake) is correct, this act of aggression must have taken place near Devils Lake.

4.2.6 Discussion

Although historic Indian tribes apparently occupied and/or used the Devils Lake area, they did so during times when the level of Devils Lake was higher than it now is. As indicated in Section 2.0, lake levels during the period 1700 to 1850 were sufficiently high to place present areas proposed for COE flood control measures under water. It is assumed that this being the case, the area could not have been used by historic Indian tribes in the area. As discussed in previous sections (Section 2.0, Section 3.0, and Section 4.1.6), the assumed reason for lack of historic Indian cultural resources is that lake levels during such times as historic Indians would have resided in the general Devils Lake area would have put areas of presently proposed flood control under water.

4.3 EURO-AMERICAN OCCUPATION

4.3.1 Emergence of the Fur Trade

Most documentary evidence of the early fur trade in what is now northeastern North Dakota comes from the Red River Valley. The area east of Red Lake (in north-central Minnesota) had become devoid of fur-bearing animals by 1797, which forced fur traders and their Chippewa hunters to move westward (Hickerson 1956). In 1797, Charles Chaboillez, a North West Company fur trader, built a wintering post at present Pembina (Coues 1897). At the approximate same time, another North West Company post on the Red River (about 8.9 km--5.5 mi.--south of the Forest River) was under the direction of Vincent Roy, and the Hudson Bay Company had a post 2.4 km (1.5 mi.) north of present Pembina (Johnson 1964, Hickerson 1959 in Schweigert 1977). In 1800, Alexander Henry built a North West Company post on the Park River, and he established his lower Red River headquarters at present Pembina in 1801 (Coues 1897). Between 1800 and 1808, Henry established a number of wintering posts at the "Hair Hills" (Pembina Escarpment), both in present North Dakota and in present Manitoba (Coues 1897). During this period, Henry met fierce competition from the competing Hudson's Bay and XY companies, and also from independent traders. By 1808, hunting and disease had depleted the area of beaver, and Henry totally abandoned it. According to Schweigert (1977), by 1818 the middle Red River Valley, and possibly the Devils Lake area, were no longer desirable places for the fur trade.

The North West Company may have been active in the Devils Lake area until it merged with the Hudson's Bay Company in 1821, but actual documentation of such activity is lacking. In 1823, the U.S. Government placed restrictions on fur trade activities by British-owned companies, including the Hudson's Bay Company; this action was a result of establishment of the international boundary at the 49th parallel in 1818. Sometime between 1817 and 1827, trader Robert Dickson had a post built at Devils Lake through an agreement with the Hudson's Bay Company. This post was established by Dickson's employer, Duncan Graham, on an island which still is called Graham's Island (Burdick 1949; DeNoyer 1910; Andreas 1884; Schweigert 1977). Graham's Island is located approximately 16.1 km (10 mi.) west and slightly north of HASI's 1981 survey area. Remains of Graham's post still were visible in 1884 (Andreas 1884), but apparently no longer are evident (Schweigert 1977). At an undetermined date (possibly in the 1820s), an American Fur Company Post (Fort Rice) was built on Devils Lake. This post may have been operated by Henry Rice, and later by the Northwestern Fur Company (Andreas 1884, Schweigert 1977). The Northwestern Fur Company was a St. Paul firm that purchased trading rights and posts in the general Devils Lake area from the Pierre Chouteau Company in 1864; the Pierre Chouteau Company had received these rights when the American Fur Company dissolved (Chittenden 1936). Andreas (1884) indicates that a Northwestern Fur Company post stood on the site where in 1867 Fort Totten was built; this post and Fort Rice may have been one and the same (Schweigert 1977).

4.3.2 Establishment of Fort Totten

Fort Totten was established on the south shore of Devils Lake's west

bay on 17 July 1867, by General A.H. Terry (Babcock 1952). The site of this military post is located approximately 16.1 km (10 mi.) south and slightly west of HASI's 1981 study area. The fort was named in honor of Brevet Major General Joseph Totten, the late chief engineer of the Army, and it was constructed as one in a series of military outposts designed to protect the overland route from St. Paul to the Montana and Idaho gold fields (DeNoyer 1910). The post also was intended to protect settlers moving into the area, to control the Dakota, and to serve as a control point for the Indian Reservation, which had been established on Devils Lake earlier that year (1867) (Babcock 1952). Fort Totten was retained as a military post until 1890, when it became an industrial school for area Indians (Robinson 1966).

4.3.3 Permanent Euro-American Settlement

While the area north of Devils Lake was not opened for settlement officially until mid-1883, approximately 6,070.4 ha (15,000 ac.) were under cultivation by 3,000 homesteaders by that time (Webb 1931; Babcock 1952; Burdick 1949; Schweigert 1977). The first of these homesteaders were former military personnel from Fort Totten, who began developing tracts on Graham's Island in 1880 (Schweigert 1977). This rapid settlement was a result of completion of the St. Paul, Minneapolis, and Manitoba Railroad (later Great Northern and Burlington Northern) to Larimore in 1881 and Devils Lake in 1883. The community of Devils Lake remained the railhead for this line until 1886, when the line advanced westward (Schweigert 1977).

Lieutenant Heber M. Creel, a topographic engineer stationed at Fort Totten, resigned his position in 1882 and squatted on land, which then was located on the north shore of Devils Lake (Section 34, T156N, R64W). Creel surveyed a townsite on this land and named it Creelsburg (Williams 1961). A post office was established there in November 1882, with Heber Creel postmaster, and the town's name was changed to Creel City early the following year. In May 1883, the St. Paul, Minneapolis, and Manitoba Railroad bought five-eighths of an enlarged townsite; this townsite included Section 33 and Creel City (Section 34), T156N, R64W (Williams 1961). When this village was incorporated in 1884, its name was changed to the City of Devils Lake, and the post office name was changed to Devils Lake. The village was incorporated as a city in 1894 (Williams 1961).

Devils Lake became a major commercial trading center for the region and has maintained that role to the present. Devils Lake's early success resulted from its association with the steamboat shipping industry and from the delay in westward railroad construction, which allowed Devils Lake to remain the railhead for three years (Babcock 1952). Steamboat navigation began in 1883 and ended in 1909, with the steady decline in lake level and with completion of the Jamestown and Northern Railroad (a branch of the Northern Pacific Railroad mainline) to the Minnewaukan area (Joraanstad et al. 1977). By 1910, construction was complete on five rail lines in the Devils Lake area. These rail lines included: the St. Paul, Minneapolis, and Manitoba (Great Northern) Railroad; the Farmers Grain and Shipping Line; the Minneapolis, St. Paul, and Sault St. Marie

(Soo Line) Railroad; the Jamestown and Northern (Northern Pacific) Railroad; and the Devils Lake Chautauqua Railroad (Babcock 1952). The community of Devils Lake remains a minor railroad hub, and it remains the leading commercial center in a predominantly agricultural area.

4.3.4 Devils Lake Chautauqua and Devils Lake and Chautauqua Railroad

Data for the following discussion of the North Dakota Chautauqua and the Devils Lake and Chautauqua Railroad was taken primarily from the Devils Lake Bicentennial Committee (1976). The North Dakota Chautauqua Assembly grounds were patterned after a popular resort and annual summer "happening" on the shores of Lake Chautauqua in western New York state. The original New York Chautauqua met initially in 1874; in addition to this parent assembly (still held each year in July and August), local Chautauquas (with lectures, readings, sports, and various forms of entertainment) were held throughout the country. Chautauquas had strong religious and patriotic orientations and they were centered around the 4th of July--the nation's founding date.

The first Summer Assembly in North Dakota was held at Spiritwood Lake (north of Jamestown) on 6 through 18 July 1892. Because of its popularity, a Chautauqua Organization was formed through sale of stocks, priced at \$5.00 per share, and an executive committee was established to decide on a permanent location for the Assembly. Bids apparently were received from the North Dakota communities of Devils Lake, Spiritwood Lake, and Valley City, along with Minnesota's Detroit Lakes. The bid finally accepted was from an offer made by Captain Edward E. Heerman of Devils Lake. On 23 November 1892, Captain Heerman

conveyed to the Devils Lake Chautauqua Association, a corporation, in consideration of \$3,000 the west one half of southeast one fourth and lots 3 and 4 of section 18, township 153, range 64, and describing lake shore of said lands as 100 feet south and to 100 feet north of a dock known as Heerman's Landing. The agreement provided said Association shall make the first year \$5,000 improvements totaling \$10,000 improvements and shall revert to Captain Heerman if the Association fails to make said improvements (Devils Lake Bicentennial Committee 1976).

In succeeding years, the Chautauqua secured additional, adjoining land in Section 18, T153N, R64W, which brought the total area to approximately 80.9 ha (200 ac.). This area presently is occupied by the community of Lakewood Park and the Assembly of God Bible Camp, located approximately 2.4 km (1.5 mi.) south and slightly west of HASI's 1981 survey area.

The Chautauqua grounds were laid out in 1893 in the form of a park centered by an open area, which was called the "auditorium circle." A baseball field and large picnic grounds were located to the south and east, and wedge-shaped cottage lots formed a semi-circle around three sides of the auditorium circle. A hotel, the Oakwood, was constructed south of the cottage lots and it was operated for the Assembly in 1893. Later, two additional hotels were opened on the grounds to accommodate

the many Chautauqua performers. Additionally, the Association owned hundreds of tents, which they rented on a weekly or seasonal basis, and all sorts of camping gear were available for rent from Devils Lake merchants. Dining halls on the grounds were said to be equipped to feed as many as 20,000 persons daily, and they included a Great Northern coach converted into a restaurant in the 1890s. The Chautauqua Association owned a large store building, in which it rented concession space to local merchants. Captain Heerman had a large steamboat dock immediately west of the grounds. Over the years, the Chautauqua grounds contained a roller rink, an indoor swimming pool, a shooting gallery, a dance pavillion, ample horse stable facilities, numerous bathing houses, and a small zoo.

The first annual meeting of the State Chautauqua Assembly was held on Wednesday, 28 June through Monday, 27 July, 1893. The length of succeeding assemblies varied, but they appear to have lasted approximately three weeks, usually beginning on or about 28 June. Classes were organized in physical education, culture, music, and art. Entertainment included all kinds of band and chorus concerts, Indian dance programs, and lumberjack and baseball contests. Each annual assembly had special interest days, such as Farmers Day, Temperance Day, and Indians Day, which were presented with appropriate curriculums. Among the more famous national personalities to speak at the various assemblies were William Jennings Bryant, Carrie Nation, James J. Hill, and then ex-president, William Howard Taft.

The first Chautauqua auditorium was not constructed until at least 1894, and a huge auditorium was constructed and opened officially for the 1900 Assembly. This building, with a seating capacity of at least 4,000, was one of the three largest Chautauqua auditoriums in the nation. The roof contained a number of hinged doors which could be opened on clear days and closed during rainy weather or when movies or similar entertainment was being presented. The auditorium roof collapsed under the weight of heavy snow on 6 May 1950 and the building was declared a total loss soon after; the lumber apparently was salvaged.

The final Chautauqua Assembly (held on Rock Island--Creel Bay) apparently consisted of a five-day session, which lasted from 1 July through 5 July 1929. Specific reasons for discontinuing the annual North Dakota Chautauqua Assembly are not understood. It is assumed that the nation's financial collapse, experienced during the Great Depression, was one factor. Continual recession of the lake level may represent another reason. Babcock (1952) states that by 1932 the major bathing resorts on the lake were closed because of the salinity and brackishness of the water. Attempts to revive the Devil Lake session in 1938 apparently failed. In 1942, the Chautauqua Association sold what little remained of its Creel Bay holdings to the City of Devils Lake.

The only cultural resource site located and recorded by HASI in the Devils Lake survey area is a remnant of the railbed of the Devils Lake and Chautauqua Railroad (site 32RY9; see Section 8.0 and NDCRS site form in Appendix II). The portion of the railbed situated within HASI's survey area, which will be inundated by construction of the proposed

south holding pond, extends diagonally from the northeast corner of Section 4, T153N, R64W, to a point just north of the southwest corner of Section 4 (Figure 1, Section 1.0, and Figure 4, Section 8.0). Field survey of the area revealed no architectural structures, structural remnants, or other cultural materials in association with this railbed portion. Review of a Ramsey County atlas, published in 1909, revealed no associated railroad structures from the Devils Lake and Chautauqua depot in Devils Lake to the Chautauqua grounds near Creel Bay (Alden Co. 1909). A field check of the area in spring 1982 indicated that the Devils Lake and Chautauqua depot had been removed and no trace of railroad-related structures was found at the former Chautauqua grounds. Much of the remaining railbed is eroded badly, primarily because of seasonal water-logging.

From its inception in 1892, the North Dakota Chautauqua Executive Committee had discussed plans for creating a trolley system from Devils Lake to the Chautauqua grounds. Captain Heerman was not able to dock his riverboat at the community of Devils Lake after 1899 because water levels were declining. This situation provided an air of immediacy to the committee's attempt to establish a rail system from the community of Devils Lake to the Chautauqua grounds. On 7 July 1899, the Chautauqua Association signed a contract with J.H. McCulloch to secure a right-of-way for the Chautauqua Railway. McCulloch received a 30 year franchise in exchange for completing the rail line by 20 June 1900. Fares were not to exceed \$0.25 per trip.

The date when track laying was initiated is not known presently, but since the contract was signed in summer 1899, it is possible that work started later the same year. Dirt used for the railbed was hauled in horse-powered wagons. Once sufficient track was layed, the steam engine was used to transport trucks loaded with ties and rails down the tracks.

The line was completed from Devils Lake City to the Chautauqua grounds just in time for its opening session on 28 June 1900. The rails were narrow-gauge and they had been used formerly in the Alaskan gold mines, while the steam engine had functioned in Minnesota mines. The steam engine pulled second-hand coaches brought from Stillwater, Minnesota. The Chautauqua Association also had a depot and platform built in Devils Lake (immediately south of the Great Northern depot) in 1900. The tracks were extended to the Great Northern roundhouse, situated west of the departure point, so that the steam engine could be serviced. A depot also was constructed at the entrance gate to the Chautauqua grounds.

The steam engine train could make the 9.7 km (6 mi.) trip from Devils Lake to the Chautauqua grounds, which included a stop for water, in 20 minutes. The return trip required only 13.5 minutes. A smaller and lighter train was added to the line at an unknown date; this train had caboose-type coaches and it was powered by a gasoline engine built from a car motor. The train ran from 1 May until fall, or as long as weather permitted the Chautauqua grounds to remain open.

On 1 July 1903, the Devils Lake and Chautauqua Transfer Company was

organized to operate the "trolley line" from Devils Lake to the Chautauqua grounds. The first board members were George W. Dixon of Devils Lake and J.H. McCulloch of Milton. The capital stock of the corporation was \$27,000.00, divided into 270 shares at \$100.00 each. In 1917, the Devils Lake and Chautauqua Transfer Company was showing a loss, due to the number of people commuting to the Chautauqua grounds by automobile. By this date, the company's main owner was the Stotler Investment Company, and the situation had become so grave by 12 December 1917, that the track was being lifted from the railbed. A Fargo company purchased the rail and the ties were sold for firewood.

5. THEORETICAL AND METHODOLOGICAL OVERVIEW

The COE presently is engaged in the planning stages of a flood control project at Devils Lake, North Dakota. It is the primary goal of the contractor, HASI, to provide information necessary for the COE to comply with federally-mandated regulations regarding cultural resources. Three regulations have been set forth in: the Historic Preservation Act of 1966 (Public Law--PL--89-665); the National Environmental Policy Act of 1969 (PL 90-190); Executive Order 11593 for the Preservation and Enhancement of the Cultural Environment (Federal Register, 13 May 1973); the Archaeological Conservation Act of 1974 (PL 93-291); the Advisory Council on Historic Preservation "Regulations for the Protection of Historic Properties" (36 CFR 60); and COE Regulations (ER1105-2-460) "Identification and Administration of Cultural Resources" (Federal Register, 3 April 1978). Furthermore, HASI has endeavored to produce a scholarly report which may serve as a scientific reference for future professional studies.

In order to meet the above goals, HASI undertook a cultural resource inventory of the proposed project area. This inventory included a literature and records search and review, coupled with a Phase I survey. Literature and records search and review often afford researchers an opportunity to predict the types and distribution of resources that may be encountered during survey. While completing background work, descriptions of well-documented resources often are obtained, as well as data on sites that are known but that will require further study. The literature search also may make possible the development of a broad evaluatory framework within which the significance of particular resources can be determined. The specific methods, sources, and results of the literature and records search and review are presented in the following section (Section 6.0).

Cultural resource survey was conducted to determine the number and extent of cultural resources present in the study area, and to determine the relationships of those resources to the project alternatives and feature locations. This survey consisted of an on-the-ground survey of all proposed project feature locations and alternatives. Detailed descriptions of specific methods employed through conduct of the survey are included in Section 7.0. A NDCRS site form was completed for the single cultural resource site located and recorded during survey; this form is provided in Appendix II. Evaluation of this site is provided in Section 9.0, and recommendations for this site are provided in Section 10.0.

6. LITERATURE AND RECORDS SEARCH AND REVIEW

Advantage was taken of all known available North Dakota sources that might contain pertinent information on the prehistory and/or history of the Devils Lake area, during conduct of literature and records search and review. The NRHP, published in the Federal Register, and the North Dakota State Historic Sites Registry were reviewed at SHSND in Bismarck, North Dakota; the NDCRS master site and site leads files also were examined there. No historic or archeological sites or site leads had been located or recorded in any survey area, nor had any previous cultural resource work been conducted therein. Additionally, no currently listed NRHP properties are located within HASI's 1981 survey area. However, the NDCRS files did contain site forms for cultural resource sites located and recorded immediately outside the survey area. These sites are discussed in Sections 2.0 and 4.0.

The North Dakota Room of the Chester Fritz Library, University of North Dakota (UND), Grand Forks, contained the bulk of materials used in literature review. Histories of the community of Devils Lake and of Ramsey County were examined. The best of these local histories is a document produced by the Devils Lake Bicentennial Committee (1976). This publication was used almost exclusively for discussion of the Devils Lake Chautauqua and its railroad. A scholarly analysis of the early history of the Devils Lake area is provided in Schweigert (1977); much data about the historic Indian occupation of the general Devils Lake area and the establishment of Fort Totten was gathered from this report. The journals of Alexander Henry (Coues 1897) were a valuable source of information about early fur trade in the area, and Reid and Gannon (1929) represents an invaluable study of the animal life that inhabited the area of northeastern North Dakota prior to white settlement.

As discussed above and in Section 2.0, a number of cultural resource studies have been conducted in the area that immediately surrounds HASI's 1981 survey area. The most thoroughly written of these inventories appear in Schneider et al. (1977) and Schweigert (1977). Earlier work contained in Montgomery (1906), Cooper (1947), and Mallory (1966) also was reviewed.

Since little interpretative work was contained in the above-mentioned reports, HASI's research focus was expanded to include areas of southern Manitoba, and areas along the Red River Valley (particularly in Minnesota). This expanded research effort was undertaken to present the prehistoric and historic overview of the Devils Lake area in a regional perspective. Valuable archeological studies from southern Manitoba include Hlady (1970), which includes articles by Joyes, Syms, and Pettipas. Specific northern burial complexes discussed in Neuman (1975), Johnson (1973), and Syms (1979) also were reviewed.

The Geology Library (UND Geology Department) and UND's Ecological Institute Library were used extensively in preparing Section 3.0; an unpublished M.A. Thesis (Babcock 1952) was especially useful. This manuscript contains an excellent geologic account of the initial formation and later fluctuations of Devils Lake, and it displays a detailed



study of how the lake area has been used by human occupants from early historic times to approximately 1950. A study on the climate of the Devils Lake Basin, prepared by Joraanstad et al. (1977), also was used extensively in compiling Section 3.0.

7. FIELD METHODS

The city of Devils Lake is located in Ramsey County, North Dakota, 28. km (18 mi.) north of the Sheyenne River. A series of large lakes between the city and the river are collectively called Devils Lake, which once was one main body with numerous other associated lakes. The Creel Bay arm of Devils Lake reaches the city's southwest boundary, and if water rises sufficiently, this portion of the city is endangered by flood waters. Although water must exceed an elevation of 438.9 m (1,440 ft.) above MSL to encroach on the city, bay waters will fill a 3.2 km² or 4.8 km² (2 ft. or 3 ft.) area immediately against the city's southwest boundary if water levels reach 435.9 m (1,430 ft.) (Figure 2 in Section 1.0). The municipal sewage lagoon is situated in this area, and its dikes are only slightly above the 435.9 m (1,430 ft.) elevation. Several roads and U.S. Highway 2 are among existing facilities which also might be affected directly by a rise in water level above 435.9 m (1,430 ft.).

Proposed COE flood control goals at Devils Lake are grouped into two plans. Plan 1 offers protection to an elevation of 437.4 m (1,435 ft.); Plan 2 offers protection to 438.9 m (1,440 ft.). Both plans involve construction of new levees southwest of the city, and two holdings ponds (one north and one south of the existing city sewage lagoons (Figure 2). Differences in the two plans are detailed in Section 1.0.

Survey conditions were fair to poor, depending on the particular ROW area. At proposed locations of Levee Number 2 and Levee Number 4, ground was moist from recent precipitation. Since these two areas were pastures and hay fields, they were free of trees, large shrubs, and dense ground cover vegetation. Levee Number 1 and Levee Number 3 are in areas of very high, dense grasses, with patches of buckbrush and rosebushes. In the north holding pond, the north holding pond alternate, and the south holding pond areas, there are no trees or large shrubs, but grasses and other ground cover vegetation was high and dense. In these pond areas, as much as half the area surveyed was marshy and largely underwater.

As demonstrated through shovel tests (see discussion below), topsoil of the region is dark, sandy loam, which extends to a depth of about 25 cm (9.8 in.) and which is clayey in places of eolian silt lenses. Subsoil is a loamy silt of lighter color than the more organic soil above. Survey areas generally are free of glacial till stones, although occasional boulders were noted.

Method of reconnaissance was by pedestrian survey, and pedestrian survey in all cases was conducted through use of the transect method (Figure 3). Survey personnel were spaced not more than 16 m (52.5 ft.) apart and the zig-zag courses effected a maximum 8 m (26.3 ft.) radius scope of view, allowing each person to adequately investigate the ground surface. Transects were interrupted by side trips, necessary to inspect visual anomalies.

Site 32RY9, the remnants of the Devils Lake and Chautauqua Railroad, was located and recorded by HASI. Part of the railbed is located within the proposed boundaries of the south holding pond and it will be

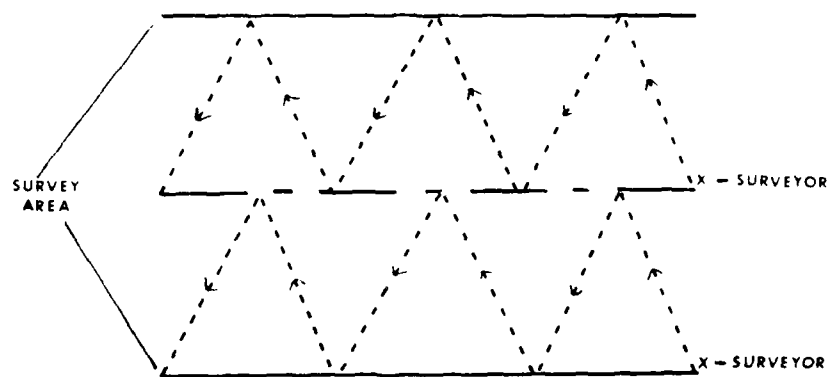


FIGURE 3. Survey Methods. (Note: All survey areas were surveyed using this method. Survey personnel were spaced not more than 16 m apart, and the zig-zag courses effected a maximum 8 m radius scope of view, which allowed each person to adequately investigate the ground surface.)



inundated if the holding pond is constructed. All of what presently remains of the railbed was recorded on a NDCRS site form, photographed, and thoroughly walked (see NDCRS site form in Appendix II). Three shovel test pits were dug along the railbed (see shovel test forms in Appendix III), and erosional cuts throughout the railbed were examined. No other cultural resources were located or recorded during conduct of survey, and no specimens of any kind were collected.

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8. INVESTIGATION RESULTS

8.1 SITE 32RY9, DEVILS LAKE AND CHAUTAUQUA RAILROAD

One historic cultural resource site (site 32RY9) was located and recorded by HASI within proposed flood control areas. Site 32RY9 consists of the railbed (which is all that presently remains) of the Devils Lake and Chautauqua Railroad (DLCRR). This railroad once extended from the Great Northern depot and roundhouse (north of the DLCRR depot) to the Chautauqua Grounds on the east side of Creel Bay. The DLCRR depot no longer exists.

The site is located in the following sections and part-sections of T153N, R64W (Figure 4):

Section 3, SW1/4 NE1/4 NW1/4
NW1/4 SE1/4 NW1/4
NE1/4 SW1/4 NW1/4
SW1/4 SW1/4 NW1/4

Section 4, SE1/4 SE1/4 NE1/4
N1/2 NE1/4 SE1/4
S1/2 NW1/4 SE1/4
NW1/4 SW1/4 SE1/4
N1/2 SE1/4 SW1/4
SW1/4 SE1/4 SW1/4
SE1/4 SW1/4 SW1/4

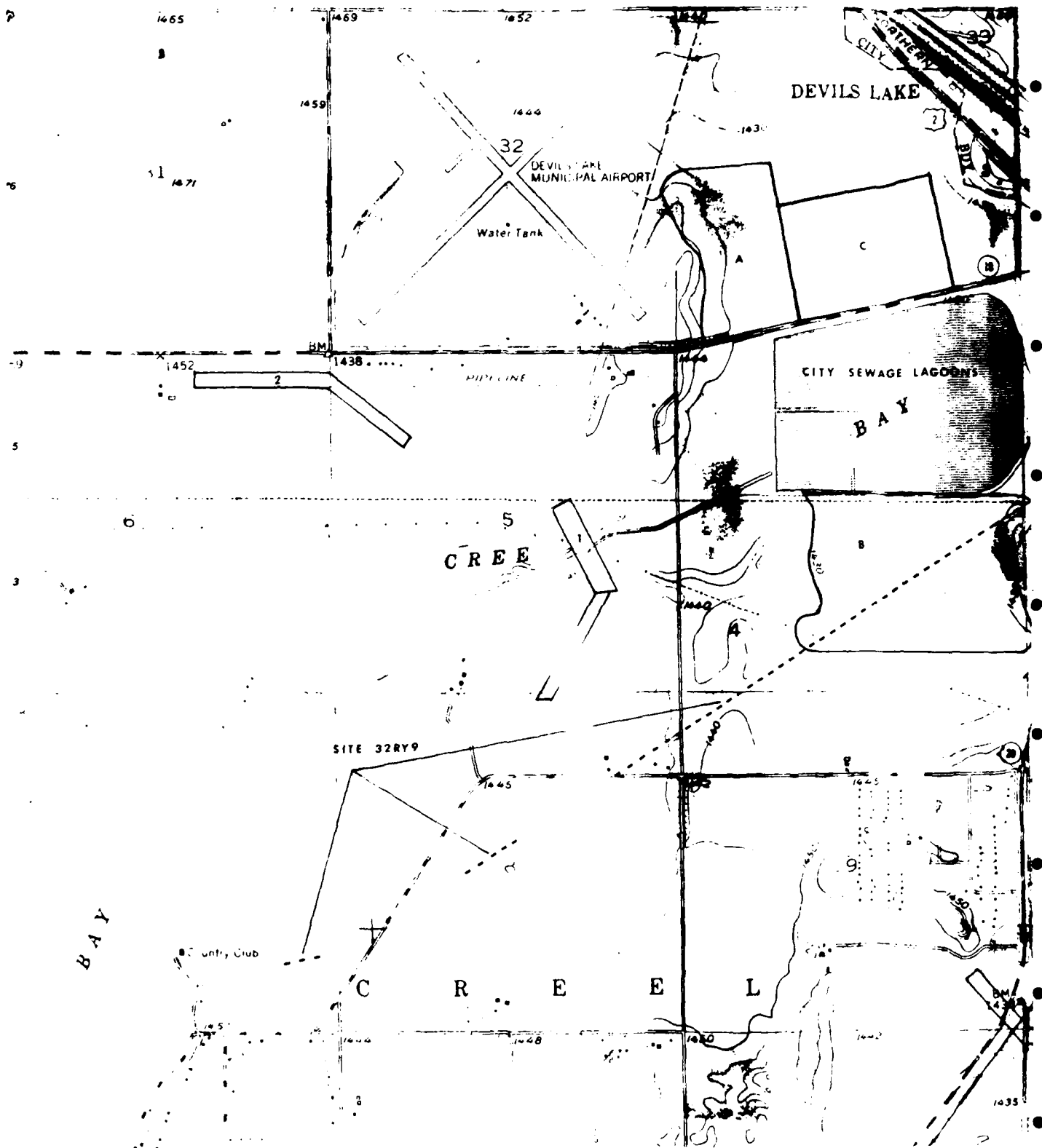
Section 9, N1/2 NW1/4 NW1/4

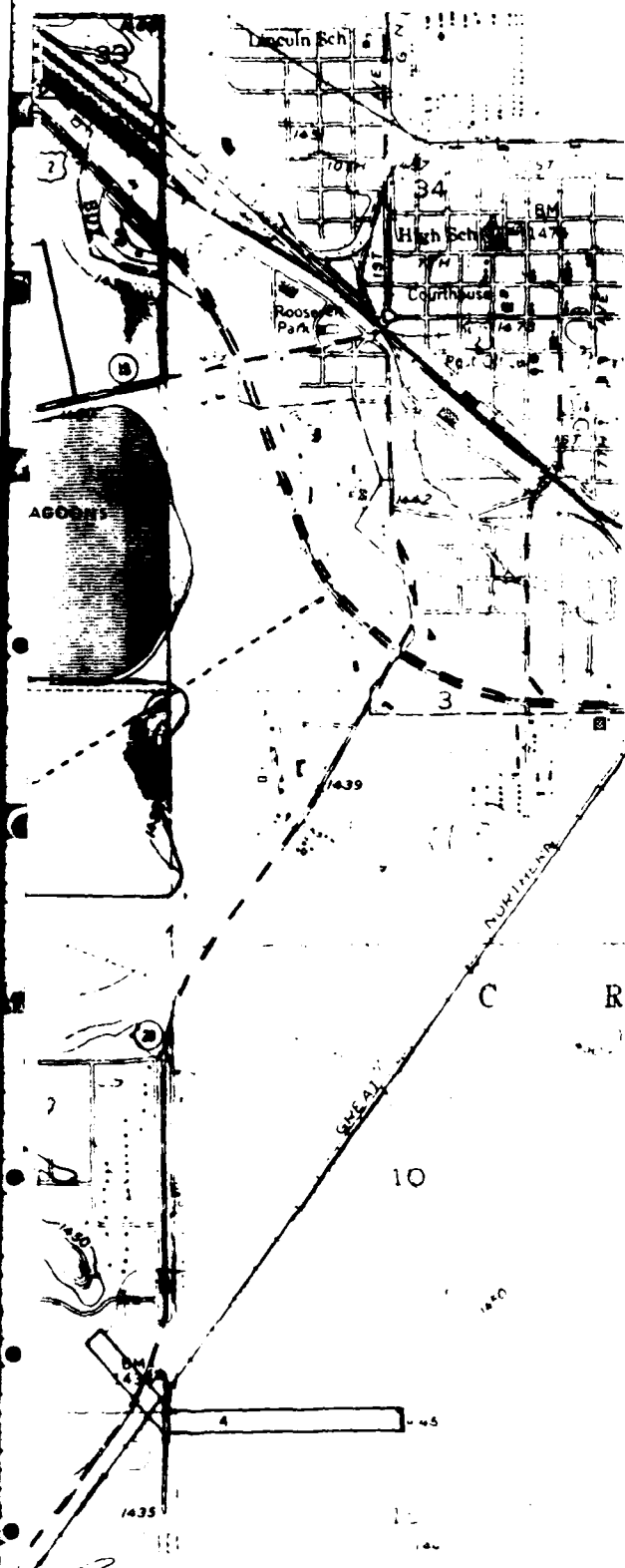
Section 8, S1/2 NE1/4 NE1/4
SW1/4 SW1/4 NE1/4
SE1/4 SE1/4 NW1/4
NW1/4 NE1/4 SW1/4

Section 7, SE1/4 NE1/4 SE1/4
N1/2 SE1/4 SE1/4
NE1/4 SW1/4 SE1/4

Much of the former railbed in Sections 3 and 4 is being used as an unimproved road, likely by area farmers. The condition of the railbed feature generally is poor or very poor due to the combined effects of waterlogging, plowing, vehicular traffic, and domestic animal use. At points where the bed still is visible, it rises from 0.1 m (0.3 ft.) to 1.5 m (4.9 ft.) above the present ground surface; the bed averages approximately 6.0 m (19.7 ft.) in width. Additionally, in most places where the bed still is visible, it is bordered on both sides by borrow pits, which normally are about 2.0 m (6.6 ft.) in width and measure from 0.1 m (0.3 ft.) to 1.0 m (3.3 ft.) in depth. During survey, most of the borrow pits were filled with run-off water and they supported aquatic plants and waterfowl. Bedding material, as viewed in erosional cuts, appears to consist of greyish-brown clay mixed with varying amounts of gravel. The feature is more prominent in its northeastern area (i.e., in







LEGEND:

- A = proposed north holding pond
- B = proposed south holding pond
- C = proposed alternate north holding pond
- 1 = proposed levee/dam
- 2 = proposed levee
- 3 = proposed levee
- 4 = proposed levee
- - - = portions of railroad still visible

FIGURE 4. Flood Control Measures Proposed in the Devils Lake Area, T153N and T154N, R64W, and Cultural Resource Site 32RY9. (Sources of base map: U.S.G.S. Devils Lake 1951, photorevised 1975, and U.S.G.S. Camp Grafton 1951, photorevised 1975)

Section 3) and in its eastern portion (in Section 4) (Figure 4). The bed was built higher in these places, apparently to compensate for the low, flat topography associated with lake deposits.

The only cultural material observed within the area of the site was the soil and gravel used to construct the railbed. Bedding material appears to consist of greyish-brown clay mixed with varying amounts of gravel, and this material appears to have been obtained locally. The clay likely was obtained from borrow areas observed along the railbed, and gravel may have been extracted from glacial till present in soil that surrounds the railbed at elevations above 435.9 m (1,430 ft.). Glacial till appears particularly prevalent at the higher elevations in Section 4 in the northeast corner (northeast end) of the COE study area and in the west-central portion of Section 4 (western end of the COE study area). A large esker, which contains huge quantities of sand and gravel, is located near the west edge of Creel Bay, approximately 8.1 km (5.0 mi.) northwest of the COE study area (Bluemler 1975: Plate 1).

Three 0.5 m² (1.6 ft.²) shovel test pits were excavated adjacent the railbed (Appendix III). The primary reason for excavation of shovel tests was to determine whether the bedding material may have been obtained locally. The greyish-brown clay noted in test pits appears to be identical to that observed in erosional cuts in the prepared railbed. As noted above, gravel may have been extracted from glacial till present in soils surrounding the railbed at elevations above 435.9 m (1,430 ft.).

The entire length of the former railbed was surveyed, from the former location of the depot in Devils Lake to the Chautauqua grounds at Creel Bay. No structures, features, or materials beyond those portions of the railbed that still are observable were noted in association with the railbed.

9. EVALUATION AND CONCLUSIONS

A portion of the Chautauqua Railbed site, 32RY9, is the only cultural resource located and recorded within any area proposed for flood control measures; portions of this site will be affected by construction of the south holding pond (Figure 2 in Section 1.0 and Figure 4 in Section 8.0). Site 32RY9 lacks integrity, and although the site does have important historic associations (i.e., its association with the North Dakota Chautauqua), it is not believed that the site retains characteristics that would yield important historic information. Therefore, the site is considered not significant, and no further cultural resource work is believed necessary at the site prior to implementation of proposed flood control measures. Documentary research conducted for this project revealed existence of other sites in the vicinity of proposed Devils Lake flood control measures (see Sections 2.0 and 4.0), but none of these cultural resources will be affected directly or indirectly by proposed construction of flood control measures.

10. RECOMMENDATIONS

It is recommended that no further cultural resource work need be conducted prior to implementation of proposed flood control measures at Devils Lake. Although a portion of site 32RY9 will be affected directly by construction of the south holding pond, the site is considered not significant and no further work is recommended for the site. While a number of potentially significant cultural resource sites are documented in the immediate vicinity of the Devils Lake study area, none of these sites should be affected directly or indirectly by proposed flood control measures and no further work should be necessary at these sites. If ROW lines or areas are altered from those described in the original Scope of Work (Appendix I) however, additional cultural resource study should be conducted for such locations.

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APPENDIX I

Contract #DACW37-81-M-2546 Scope of Work

CHECKED BOX APPLIES <input checked="" type="checkbox"/> ORDER FOR SUPPLIES OR SERVICES		<input type="checkbox"/> REQUEST FOR QUOTATIONS NO. RETURN COPY(IES) OF THIS QUOTE BY (THIS IS NOT AN ORDER. See DD Form 1155r)		PAGE 1 OF	
1. CONTRACT/PURCH ORDER NO. 7-81-M-2546		2. DELIVERY ORDER NO.		3. DATE OF ORDER 81 SEP 89	
4. REQUISITION/PURCH REQUEST NO. NCSER-ER-R-1052		5. CERTIFIED FOR NATIONAL DEFENSE UNDER DMS REG 1 DO			
6. ISSUED BY:		7. ADMINISTERED BY: (If other than 6)		8. DELIVERY FOB <input checked="" type="checkbox"/> DEST <input type="checkbox"/> OTHER (See Schedule if other)	
9. CONTRACTOR/QUOTER HISTORICAL & ARCHAEOLOGICAL SURVEYS, INC. 2207 SPRINGBROOK COURT GRAND FORKS, ND 58201		10. DELIVER TO FOB POINT BY: PER SCOPE OF WORK		11. CHECK IF <input checked="" type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> MINORITY BUSINESS	
12. DISCOUNT TERMS NET		13. MAIL INVOICES TO:			
14. SHIP TO: 1210 USPO & CUSTOM HOUSE ST. PAUL, MN 55101		15. PAYMENT WILL BE MADE BY:		MARK ALL PACKAGES AND PAPERS WITH CONTRACTOR ORDER NUMBER	
16. TYPE OF ORDER DELIVERY PURCHASE <input checked="" type="checkbox"/>		This delivery order is subject to instructions contained on this side of form only and is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract. Reference your WRITTEN QUOTE 81 SEP 83 General Provisions of Purchase Order on DD Form 1155r (EXCEPT CLAUSE NO. 13 APPLIES ONLY IF THIS BOX <input type="checkbox"/> IS CHECKED, AND NO. 15 IF THIS BOX <input checked="" type="checkbox"/> IS CHECKED); special provisions and delivery as indicated. This purchase is negotiated under authority of			
10 USC 2304(a)(3) or as specified in the schedule if within the U. S., its possessions or Puerto Rico; if otherwise, under 2304(a)(6). <input type="checkbox"/> If checked, Additional General Provisions apply; Supplier shall sign "Acceptance" on DD Form 1155r and return copies					
COUNTING AND APPROPRIATION DATA/LOCAL USE R11810039 BE-808-30-7ZA0-SCOE					
18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES	20. QUANTITY ORDERED/ACCEPTED	21. UNIT	22. UNIT PRICE	23. AMOUNT
1	CULTURAL RESOURCES INVESTIGATION OF THE FLOOD CONTROL PROJECT AT DEVILS LAKE, ND. THE CONTRACTOR WILL PERFORM THE SERVICES OUTLINED IN THE ATTACHED SCOPE OF WORK. "STATEMENT OF WAGES. THE MINIMUM WAGE TO BE PAID PERSONNEL PERFORMING WORK UNDER THIS CONTRACT MAY BE ADDED BY MODIFICATION WHEN RECEIVED FROM THE DEPT. OF LABOR." ORIGINAL	1	JOB		2,800.00
* If quantity accepted by the Government is same as quantity ordered, indicate by V mark. If different, enter actual quantity accepted below quantity ordered and encircle.		24. UNITED STATES OF AMERICA BY: R. C. LINDBERG CONTRACTING/ORDERING OFFICER		25. TOTAL \$2,800.00	
26. QUANTITY IN COLUMN 20 HAS BEEN: <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED		27. DATE 81 SEP 89		29. DIFFERENCES	
DATE _____ SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____		30. INITIALS		31. AMOUNT VERIFIED CORRECT FOR	
32. I certify this amount is correct and proper for payment.		33. PAID BY		34. CHECK NUMBER	
DATE _____ SIGNATURE AND TITLE OF CERTIFYING OFFICER _____		35. BILL OF LADING NO		36. S/R VOUCHER NO.	
37. RECEIVED AT	38. RECEIVED BY	39. DATE RECEIVED	40. TOTAL CONTAINERS	41. S/R ACCOUNT NUMBER	42. S/R VOUCHER NO.

ADDITIONAL GENERAL PROVISIONS (CONTINUED)

(For use with DD 1155 for the procurement
of supplies and services when the amount of this contract
is in excess of \$2,500 but not in excess of \$10,000)

Edition of 12 September 1980

Issued By: Department of the Army, Corps of Engineers

21. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT-OVERTIME COMPENSATION (1971 NOV)

(The following clause is applicable if this contract is in excess of \$2,500)

This contract, to the extent that it is of a character specified in the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333), is subject to the following provisions and to all other applicable provisions and exceptions of such Act and the regulations of the Secretary of Labor thereunder.

(a) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any workweek in which he is employed on such work to work in excess of eight hours in any calendar day or in excess of forty hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, whichever is the greater number of overtime hours.

(b) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions of paragraph (a), the Contractor and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the provisions of paragraph (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of eight hours or in excess of his standard workweek of forty hours without payment of the overtime wages required by paragraph (a).

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer may withhold from the Government Prime Contractor, from any moneys payable on account of work performed by the Contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy and liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions of paragraph (b).

(d) Subcontracts. The Contractor shall insert paragraphs (a) through (d) of this clause in all subcontracts, and shall require their inclusion in all subcontracts of any tier.

(e) Records. The Contractor shall maintain payroll records containing the information specified in 29 CFR 516.2(a). Such records shall be preserved for three years from the completion of the contract. (DAR 7-103.16(a))

22. SERVICE CONTRACT ACT OF 1965, AS AMENDED (1979 SEP)

(The following clause is applicable if this contract is in excess of \$2,500 and is for services)

This contract, to the extent that it is of the character to which the Service Contract Act of 1965, as amended (41 U.S.C. 351 et seq.)(Hereafter

referred to as the "Act"), applies, is subject to the following provisions of the Act and to the regulations of the Secretary of Labor thereunder (29 CFR Part 4).

(a) Compensation. Each service employee employed in the performance of this contract by the Contractor or any subcontractor shall be paid no less than the minimum monetary wage and shall be furnished fringe benefits determined by the Secretary of Labor or the Secretary's authorized representative, as specified in any attachment to this contract. If there is such an attachment, any class of service employees which is not listed therein, but which is to be employed under this contract, shall be classified by the Contractor so as to provide a reasonable relationship between such classifications and those listed in the attachment and shall be paid such monetary wages and furnished such fringe benefits as are determined by agreement of the interested parties, who shall be deemed to be the contracting agency, the Contractor, and the employees who will perform on the contract or their representatives. If the interested parties do not agree on a classification or reclassification which is, in fact, conformable, the Contracting Officer shall submit the question, together with recommendation, to the Administrator of the Wage and Hour Division, Employment Standards Administration, of the Department of Labor for final determination. Failure to pay such employees the compensation agreed upon by the interested parties or finally determined by the Administrator or the Administrator's authorized representative shall be a violation of this contract. No employee engaged in performing work on this contract shall be paid, in any event, less than the minimum wage specified under section 6(a)(1) of the Fair Labor Standards Act of 1938, as amended.

(b) Obligation to Furnish Fringe Benefits. The Contractor or subcontractor can only discharge the obligation to furnish fringe benefits specified in the attachment or conformed thereto either by (i) furnishing any equivalent combinations of fringe benefits, or (ii) making equivalent or differential payments in cash pursuant to the applicable rules set forth in subparts B and C of 29 CFR Part 4.

(c) Adjustment of Compensation. If, as authorized pursuant to section 4(d) of the Act, the term of this contract is more than 1 year, the minimum monetary wages and fringe benefits required to be paid or furnished thereunder to service employees shall be subject to adjustment after 1 year and no less than once every 2 years, pursuant to wage determinations to be issued by the Wage and Hour Division, Employment Standards Administration, Department of Labor, as provided in the Act.

(d) Minimum Wage. In the absence of a minimum wage attachment for this contract, neither the Contractor nor any subcontractor under this contract shall pay any employees performing work under this contract (regardless of whether they are service employees) less than the minimum wage specified by section 6(a)(1) of the Fair Labor Standards Act of 1938, as amended. Nothing in this provision shall relieve the Contractor or any subcontractor of any other obligation under law or contract for the payment of a higher wage to any employee.

(e) Successorship. If this contract succeeds a contract subject to the Act, under which substantially the same services were furnished and service employees were paid wages and fringe benefits provided for in a collective bargaining agreement, then in the absence of a minimum wage attachment for this contract neither the Contractor nor any subcontractor under this contract shall pay any service employee performing any of the contract work less than the wages and fringe benefits provided for in such collective bargaining agreements, to which such employee would be entitled if employed under the

predecessor contract, including accrued prospective wages and fringe benefits provided for under such agreement. No Contractor or subcontractor under this contract may be relieved of the foregoing obligation unless the limitations of 29 CFR 4.1c(b) apply or unless the Secretary of Labor or the Secretary's representative (i) determines that the collective bargaining agreement applicable to service employees employed under the predecessor contract was not entered into as a result of arms-length negotiations, or (ii) after a hearing, as provided in 29 CFR 4.10, finds that the wages and fringe benefits provided for in such agreement are substantially at variance with those which prevail for services of a character similar in the locality.

(f) Notification to Employees. The Contractor and any subcontractor under this contract shall notify each service employee commencing work on this contract of the minimum monetary wage and any fringe benefits required to be paid pursuant to this contract, or shall post a notice of such wages and benefits in a prominent and accessible place at the worksite, using such posters as may be provided by the Department of Labor.

(g) Safe and Sanitary Working Conditions. The Contractor or subcontractor shall not permit any part of the services called for by this contract to be performed in buildings or surroundings or under working conditions provided by or under the control or supervision of the Contractor or subcontractor that are unsanitary or dangerous to the health or safety of service employees engaged to furnish these services, and the Contractor or subcontractor shall comply with the safety and health standards applied under 29 CFR Part 1925.

(h) Records. The Contractor and each subcontractor performing work subject to the Act shall make and maintain for 3 years from the completion of the work, records containing the information specified below for each employee subject to the Act and shall make them available for inspection and transcription by authorized representatives of the Administrator of the Wage and Hour Division, Employment Standards Administration, Department of Labor.

(1) Employee's name and address.

(2) Employee's work classification or classifications, rate or rates of monetary wages and fringe benefits provided, rate or rates of fringe benefit payments in lieu thereof, and total daily and weekly compensation.

(3) Employee's daily and weekly hours worked.

(4) Any deductions, rebates, or refunds from employee's total daily or weekly compensation.

(5) A list of monetary wages and fringe benefits for those classes of service employees not included in the minimum wage attachment to this contract, but for which such wage rates or fringe benefits have been determined by the Administrator or the Administrator's authorized representative, pursuant to the labor standards in paragraph (a) of this clause. A copy of the report required by paragraph (m) of this clause shall be deemed to be such a list.

(i) Withholding of Payments and Termination of Contract. The Contracting Officer shall withhold or cause to be withheld from the Government Prime Contractor under this or any other Government contract with the Prime Contractor such sums as the Contracting Officer, or an appropriate officer of the Labor Department, decides may be necessary to pay underpaid employees. Additionally, any failure to comply with the requirements of this clause relating to the Act may be grounds for termination of the right to proceed with the contract work. In such event, the Government may enter into other contracts or arrangements for completion of the work, charging the Contractor in default with any additional cost.

(j) Subcontractors. The Contractor agrees to insert this clause relating to the Act in all subcontracts. The term "Contractor," as used in this clause, in any subcontract shall be deemed to refer to the subcontractor, except in the term "Government Prime Contractor."

(k) Service Employee. As used in this clause, relating to the Act, the term "service employee" means any person employed in connection with a contract entered into by the United States and not exempted under section 7 of the Act (41 U.S.C. 356), whether negotiated or advertised, the principal purpose of which is to furnish services in the United States (other than any person employed in a bona fide executive, administrative, or professional capacity, as those terms are defined in 29 CFR Part 541 and in any subsequent revisions of these regulations); and shall include all such persons, regardless of any contractual relationship that may be alleged to exist between a Contractor or subcontractor and such persons.

(l) Federal Wage Board (Blue Collar) and General Schedule (White Collar) Wages and Fringe Benefits Applicable to Service Employee Classifications. Classes of service employees expected to be employed under this contract with the Government would be subject, if employed by the contracting agency, to the provisions of 5 U.S.C. 5341 and 5332 and, if so employed, would be paid the rates of wages and fringe benefits stated in the solicitation for this contract.

(m) Contractor's Report. If there is a wage determination attachment to this contract and one or more classes of service employees that are not listed thereon are to be employed under the contract, the Contractor shall report to the Contracting Officer the monetary wages to be paid and the fringe benefits to be provided each such class of service employee. This report shall be made promptly, as soon as such compensation has been determined, as provided in paragraph (a) of this clause.

(n) Collective Bargaining Agreements Applicable to Service Employees. If wages to be paid or fringe benefits to be furnished any service employees employed by the Government Prime Contractor or any subcontractor under the contract are provided for in a collective bargaining agreement that is or will be effective during any period in which the contract is being performed, the Government Prime Contractor shall report such fact to the Contracting Officer. The Prime Contractor also shall provide full information as to application and accrual of such wages and fringe benefits, including any prospective increases, to service employees engaged in work on the contract, and a copy of the collective bargaining agreement. Such report shall be made upon commencing performance of the contract in the case of collective bargaining agreements effective at such time, and, in the case of such agreements or provisions or amendments thereof effective at a later time during the period of contract performance, the agreements shall be reported promptly after negotiation thereof.

(o) Regulations Incorporated by Reference. All interpretations of the Act expressed in subpart C of 29 CFR Part 4 are hereby incorporated by reference in this contract.

(p) Exemptions and Limitations. This clause shall not apply to the following:

(1) Any contract of the United States or District of Columbia for construction, alteration, and/or repair, including painting or decorating of public buildings or public works;

(2) Any work required to be done in accordance with the provisions of the Walsh-Healey Public Contracts Act (49 Stat. 2036);

(3) Any contract for the carriage of freight or personnel by vessel, airplane, bus, truck, express, railway line, or oil or gas pipeline

where published tariff rates are in effect, such carriage is subject to rates covered by section 22 of the Interstate Commerce Act;

(4) Any contract for the furnishing of services by radio, telephone, telegraph, or cable covered by the Communications Act of 1934;

(5) Any contract for public utility services, including electric light and power, water, steam, and gas;

(6) Any employment contract for direct services to a Federal agency by an individual or individual partnership;

(7) Any contract with the War Relocation Authority, the principal purpose of which is the operation of postal communications;

(8) Any services to be furnished outside the United States. For geographic purposes, the "United States" is defined in section 8(d) of the Act to include any State of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, the Outer Continental Shelf Lands, as defined in the Outer Continental Shelf Lands Act, American Samoa, Guam, Wake Island, Eniwetok Atoll, Kwajalein Atoll, Johnston Island, and Howland Island. It does not include any other territory under the jurisdiction of the United States or any U.S. base or possession within a foreign country;

(9) Any of the following contracts, exempted from all provisions of the Act, pursuant to section 4(b) of the Act, which exemptions the Secretary of Labor, prior to amendment of such section by Public Law 92-473, found to be necessary and proper in the public interest or to avoid serious impairment of the conduct of Government business:

(i) Contracts entered into by the United States with common carriers for the carriage of mail by rail, air (except air mail routes), and ocean vessel, where such carriage is performed by regularly scheduled runs of trains, airplanes, buses, and vessels over regularly established routes and accounts for an insubstantial portion of the revenue therefrom; and

(ii) Any contract entered into by the U.S. Postal Service with an individual owner-operator for mail service where it is not contemplated at the time the contract is made that such owner-operator will hire any service employee to perform the services under the contract except for short periods of vacation time or for unexpected contingencies or emergency situations such as illness or accident.

(q) Variations, Tolerances, and Exemptions Involving Employment. Notwithstanding any of the provisions in paragraphs (a) through (o) of this clause relating to the Act, the following employees may be employed in accordance with the following variations, tolerances, and exemptions, which the Secretary of Labor, pursuant to section 4(b) of the Act (prior to its amendment by Public Law 92-473), found to be necessary and proper in the public interest or to avoid serious impairment of the conduct of Government business:

(1) (i) Apprentices, student-learners, and workers whose earning capacity is impaired by age, physical or mental deficiency or injury may be employed at wages lower than the minimum wages otherwise required by section 2(a)(1) or 2(a)(2) of the Act without diminishing any fringe benefits or cash payments in lieu thereof required under section 2(a)(2) of the Act, in accordance with the procedures prescribed for

the employment of apprentices, student-learners, handicapped persons, and handicapped clients of sheltered workshops under section 14 of the Fair Labor Standards Act of 1938, in the regulations issued by the Administrator of the Wage and Hour Division of the Department of Labor (29 CFR Parts 520, 521, 524, and 525).

- (ii) The Administrator will issue certificates under the Act for the employment of apprentices, student-learners, handicapped persons, or handicapped clients of sheltered workshops not subject to the Fair Labor Standards Act of 1938, or subject to different minimum rates of pay under the two acts, authorizing appropriate rates of minimum wages (but without changing requirements concerning fringe benefits or supplementary cash payments in lieu thereof), and applying procedures prescribed by the applicable regulations issued under the Fair Labor Standards Act of 1938 (29 CFR Parts 520, 521, 524, and 525).
- (iii) The Administrator will also withdraw, annul, or cancel such certificates in accordance with the regulations in 29 CFR Parts 525 and 528.

(2) An employee engaged in an occupation in which the employee customarily and regularly receives more than \$20 a month in tips may have the amount of such tips credited by the employer against the minimum wage required by section 2(a)(1) or section 2(b)(1) of the Act, in accordance with the regulations in 29 CFR Part 531: Provided, however, That the amount of such credit not exceed one half of the minimum rate specified in section 6(a)(1) of the Fair Labor Standards Act of 1938, as amended. Note: This paragraph may not be operable where section 4(c) of the Act applies. (DAR 7-1903.41(a))

23. FAIR LABOR STANDARDS ACT AMENDMENT (1974 MAY)

(The following clause is applicable if this contract is for services)

Notwithstanding any other provisions of this contract, the minimum wage payment shall be as specified by P.L. 93-259 or the service contract act wage determination rate, if any, whichever is greater.

24. ALTERATIONS

The following alteration has been made.

5. DISPUTES. In accordance with the Contract Disputes Act of 1978, Clause 5, Disputes, DD Form 1155r, is deleted and the following is inserted therefor.

DISPUTES (1980 JUN)

- (a) This contract is subject to the Contract Disputes Act of 1978 (P.L. 95-563).
- (b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved in accordance with this clause.
- (c) (i) As used herein, "claim" means a written demand or assertion by one of the parties seeking, as a matter of right, the payment of money, adjustment or interpretation of contract terms, or other relief, arising under or relating to this contract. However, a written demand by the contractor seeking the payment of money in excess of \$50,000 is not a claim until certified in accordance with (d) below.

(ii) A voucher, invoice, or other written request for payment which is not in dispute when submitted is not a claim for the purposes of the Act. However, where such submission is subsequently disputed either as to liability or amount or not acted upon in a reasonable time, it may be considered a claim pursuant to the Act by complying with the submission and certification requirements of this clause.

(iii) A claim by the contractor shall be made in writing and submitted to the contracting officer for decision. A claim by the Government against the contractor shall be subject to a decision by the Contracting Officer.

(d) For contractor claims of more than \$50,000, the contractor shall submit with the claim a certification that the claim is made in good faith; the supporting data are accurate and complete to the best of the contractor's knowledge and belief; and the amount requested accurately reflects the contract adjustment for which the contractor believes the Government is liable. The certification shall be executed by the contractor if an individual. When the contractor is not an individual, the certification shall be executed by a senior company official in charge at the contractor's plant or location involved, or by an officer or general partner of the contractor having over-all responsibility for the conduct of the contractor's affairs.

(e) For contractor claims of \$50,000 or less, the Contracting Officer must, if requested in writing by the contractor, render a decision within 60 days of the request. For contractor certified claims in excess of \$50,000 the Contracting Officer must decide the claim within 60 days or notify the contractor of the date when the decision will be made.

(f) The Contracting Officer's decision shall be final unless the contractor appeals or files a suit as provided in the Act.

(g) Interest on the amount found due on a contractor claim shall be paid from the date the contracting officer receives the claim, or from the date payment otherwise would be due, if such date is later, until the date of payment.

(h) The Contractor shall proceed diligently with performance of the contract, pending final resolution of any request for relief, or any other action arising under the contract, and comply with any decision of the Contracting Officer. (DAR 7-103.12(a))

25. AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS (1976 MAY)

(Contracts and subcontracts are exempt from the requirements of the following clause with regard to work performed outside the United States by employees who were not recruited within the United States.)

(a) The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, promotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(b) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(c) In the event of the Contractor's noncompliance with the provisions of this clause, action for noncompliance may be taken in accordance with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.

(d) The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the Contracting Officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

(e) The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

(f) The Contractor will include the provisions of this clause in every subcontract or purchase order of \$2,500 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance. (DAR 7-103.28)

26. COLLECTIVE BARGAINING AGREEMENT

(The following clause is applicable if this contract is for services)

The Contractor agrees to provide to the Contracting Officer, upon request, a copy of any collective bargaining agreement applicable to employees performing under this contract.

27. HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (1977 OCT)

(a) As used in this clause, hazardous material shall be defined in Federal Standard No. 313A ("Material Safety Data Sheet, Preparation and Submission of"), in effect on the date of this contract.

(b) The Contractor shall prepare and submit Material Safety Data Sheet (Form OSHA-20 (DoD)) in accordance with Federal Standard No. 313A for all hazardous material, whether or not listed in Appendix A of the Standard, delivered pursuant to this contract or for which performance of work, use, handling, manufacture, packaging, transportation, storage, inspection or disposal of, or any other use after delivery to the Government designated destination will involve exposure to hazardous materials or items containing such materials. Material Safety Data Sheets shall be submitted five (5) days prior to delivery of the material.

(c) The requirements of this clause, or any act or failure to act by the Government in surveillance or enforcement of this clause, shall not affect or relieve the Contractor of any responsibility or liability for the safety of Government or Contractor personnel or property, or of any subcontractor or vendor personnel.

(d) Nothing contained in this clause shall relieve the Contractor from complying with applicable federal, state, and local laws, codes, ordinances and regulations (including the obtaining of licenses and permits) in connection with hazardous material in the performance of this contract.

(e) Government's rights in data furnished under this contract with respect to hazardous material:

(i) The Government shall have the right to use, duplicate and disclose any data to which this clause is applicable for the purposes of apprising personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous

materials and for medical treatment of those affected by such material, and to have others use, duplicate, and disclose such data for the Government for such purposes.

(ii) Such data shall not be duplicated, or disclosed, or released outside the Government, in whole or in part for any procurement or manufacturing purpose, if the following legend is marked on each piece of data to which this clause is applicable:

"This is furnished under United States Government Contract No. _____ and shall not be used, duplicated or disclosed for any procurement or manufacturing purpose without the permission of _____. This legend shall be marked on any reproduction hereof."

(iii) The Contractor shall not place the legend set forth above or any other restrictive legend on any data which the Contractor or any subcontractor previously delivered to the Government without limitations or which should be delivered without limitations under the conditions prescribed by the "Rights in Technical Data and Computer Software" clause of DAR 7-104.9(a).

(iv) Notwithstanding any other provision of this contract providing for rights in data, the rights of the Government to use, duplicate, and disclose data furnished pursuant to the requirements of this clause shall be as provided by this clause. The Government is not precluded from using similar or identical data acquired from other sources.

(f) The Contractor shall insert this clause, including this paragraph (f), with appropriate changes in the designation of the parties, in any subcontract of any tier (including purchase designations or purchase orders) hereunder which involves hazardous material. (DAR 7-104.98)

28. RATES FOR EQUIVALENT FEDERAL HIRES (1979 SEP)

(The following clause is applicable if this contract is in excess of \$2,500 and is for services)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this solicitation incorporates a statement of Federal employee classes, incorporating wages paid and fringe benefits provided to each class. These Federal classes are comparable to the service employee classes expected to be employed under the contract resulting from this acquisition. (THE STATEMENT IS FOR INFORMATION ONLY). (DAR 7-2003.84)

SCOPE OF WORK
CULTURAL RESOURCES INVESTIGATION
AT DEVILS LAKE, NORTH DAKOTA FOR A FLOOD CONTROL PROJECT

1.00 INTRODUCTION

1.01 The Contractor will undertake a cultural resources reconnaissance survey of the flood control project at Devils Lake, North Dakota.

1.02 This cultural resources inventory is being done in partial fulfillment of the obligations of the St. Paul District regarding cultural resources as set forth in the Historic Preservation Act of 1966 (P.L. 89-665), the National Environmental Policy Act of 1969 (P.L. 91-190), Executive Order 11593 for the Protection and Enhancement of the Cultural Environment (Federal Register, 13 May 1971), the Archaeological Conservation Act of 1974 (P.L. 93-291), the Advisory Council on Historic Preservation's "Procedures for the Protection of Historic and Cultural Properties" (36 CFR Part 800), the Department of the Interior guidelines concerning cultural resources (36 CFR Part 60), and Corps of Engineers Regulations (ER 1105-2-460), "Identification and Administration of Cultural Resources" (Federal Register, 3 April 1978).

1.03 The above mentioned laws establish the importance of Federal leadership in locating and preserving cultural resources within project areas. Specific steps to comply with these laws, particularly as directed in P.L. 93-291 and E.O. 11593, are being taken by the Corps "...to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance." A part of that responsibility is to locate, inventory, and nominate to the Secretary of the Interior all such sites in the project area that appear to qualify for listing on the National Register of Historic Places.

1.04 The Executive Order further directs Federal agencies "...to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished or substantially altered." In addition, the Corps is directed to administer its policies, plans and programs in such a way that federally and non-federally owned sites, structures, and objects of historical, architectural or archaeological significance are preserved and maintained for the inspiration and benefit of the people.

1.05 This cultural resources investigation will serve several purposes. The report will be a planning tool to aid the Corps in meeting its obligations to preserve and protect our cultural heritage. It will be a comprehensive, scholarly document that not only partially fulfills federally mandated legal requirements, but also serves as a scientific reference for future professional studies. It will identify sites which may require additional investigations and which may have potential for public-use development. Therefore, the report's content must be analytical in nature, not just descriptive.

2.00 PROJECT DESCRIPTION

2.01 The city of Devils Lake (1970 population 7,078) is about 95 miles west of Grand Forks, North Dakota, and is located on Devils Lake at the head of Creel Bay. Devils Lake receives runoff from about 3,580 square miles located largely north of the lake. Stump Lake lies about 10 miles southeast of the eastern bay of Devils Lake and receives runoff from a separate area of about 230 square miles. Devils Lake is divided into several bays and separate lakes which are interconnected during higher lake elevations. This chain of lakes has no outlet. The Sheyenne River, the closest possible outlet, flows generally eastward about 10 miles south of Devils Lake and closes within 4 miles of the east arm of Stump Lake. The lakes are separated from the Sheyenne River by high ground varying from about 75 to 150 feet above the level of the lakes.

2.02 From 1867 to 1940, the water level of Devils Lake decreased from about 1438 feet to 1401 feet. From 1940 to the present, the water level has risen to about 1426 feet. This increase in lake level is threatening the structural integrity of the dikes surrounding the city sewage lagoons. If the level continues to rise, the lake will be a flood threat to residential and commercial development as well as Federal, State, county, and township roads. Inclosure 1 is a graph showing lake levels.

2.03 At the request of the Devils Lake Basin Joint Water Management Board, the St. Paul District completed a flood control reconnaissance report in February 1980 which addressed the problems caused by the continuing rise in the water level of Devils Lake. The report recommended that a detailed project report be prepared under the authority of Section 205 of the 1948 Flood Control Act to investigate measures for protecting the city of Devils Lake from the immediate flood threat.

2.04 Based on the preliminary analysis, an evacuation/relocation plan and a levee/dam plan have been identified. The evacuation/relocation plan would require the relocation of a large number of commercial, private, and public facilities and would be very costly. Preliminary analysis has shown that the most economic levee/dam alignment would lie across the head of Creel Bay just west of Landfill Road. Depending on the level of protection provided, additional alignments along Trunk Highway 19 south of the airport, and near the intersection of Trunk Highway 20/57 and the Burlington Northern railroad tracks south of the city, could also be necessary.

2.05 The levee/dam would be constructed to higher design standards than usual because the structure might have to hold back water for many years. The structure would be built with a wider base and top than a typical levee and could be efficiently raised above the proposed 1435- to 1440-foot design water elevation if necessary.

3.00 DEFINITIONS

3.01 For the purpose of this study, the cultural resources investigation will include a literature and records search and review, and a Phase I on-the-ground reconnaissance level survey. Phase II testing will not be conducted at this time.

3.02 "Cultural resources" are defined to include any building, site, district, structure, object, data, or other material relating to the history, architecture, archaeology, or culture of an area.

3.03 "Literature and records search" is defined as a search for and examination of written reports, book, articles, files, records, etc. published and unpublished (found in private, local, State, and Federal depositories), which are pertinent to the cultural resources investigation for a particular project. The purposes of the literature and records search are: to familiarize the Contractor with the culture history of the study area and past investigations which have been carried out in the area; to document the location of known sites which may exist within the project area, their condition, the extent of past work undertaken at the site, and any other information which may be relevant in assessing the significance of the site; and to provide this information in a summarized form to the agency requesting the search. Although existing data may be extensive, the literature and records search should be as comprehensive as possible in providing a usable body of data for the purposes outlined above.

3.04 "Literature and records review" is defined as the review and evaluation of the pertinent literature and records examined under section 3.03. The purpose of the literature and records review is to provide the sponsoring agency with the Contractor's professional opinion as to the quality, nature and extent of the sources identified in the literature and records search (see 5.11).

3.05 "Phase I cultural resources survey" is defined as an intensive, on-the-ground survey and testing of an area sufficient to determine the number and extent of the archeological, historic, and architectural resources present, and their relationship to all the project alternatives and features. A Phase I cultural resources survey will provide data adequate to assess the general nature of all sites present; a recommendation for additional testing of those resources which, in the professional opinion of the Contractor may provide important cultural and scientific information; and detailed time, cost, and personnel estimates for Phase II testing.

3.06 "Phase II testing" is defined as the intensive testing of those sites which may provide important cultural and scientific information. Phase II testing will provide data adequate to determine the eligibility of the resources for inclusion on the National Register of Historic Places, a plan for the satisfactory mitigation of eligible sites which will be directly or indirectly impacted, and detailed time, cost and personnel estimates for mitigation. Phase II testing will not be conducted under this contract.

4.00 SURVEY SPECIFICATIONS

4.01 The literature and records search and review conducted by the Contractor will encompass the specific project area as well as a larger, regional archeological and historic study area. The scope of the search and review shall be large enough to provide the sponsor with an overall perspective on the area's cultural resources and project specific information.

4.02 Project features that will be surveyed under this contract include two holding ponds and four possible levees. Two alternative levels of flood protection are presently being considered: (1) protection to an elevation of 1435, which would involve both holding ponds and one levee; and (2) protection to an elevation of 1440, which would involve both holding ponds and four levees. The survey specifications are discussed below. Both plans are illustrated on the inclosed map.

a. Plan 1 - 1435 Flood Protection (see inclosed map)

1. North Holding Pond (designated in blue)

- (a) Size: ca. 75 acres
- (b) Percent to survey: 100 percent
- (c) Present condition; flat, grassy fields, possibly wet
- (d) Dikes/Ditches: areas designated in blue with red cross-hatching are existing ditches or dikes that will be reinforced

2. North Holding Pond - Alternative A (designated in pink)

- (a) Size: ca. 140 acres
- (b) Percent to survey: 100 percent
- (c) Present condition: used for sewage water storage

3. South Holding Pond (designated in blue)

- (a) Size: ca. 145 acres
- (b) Percent to survey: 100 percent
- (c) Present condition: drier than the north holding pond; grasslands; possibly wet
- (d) Dikes: new dike construction (designated in blue with red cross-hatching)
- (e) Construction conditions: construction probably will not involve excavation

4. New Levee #1 (designated in green)

- (a) Length: ca. .35 mile
- (b) Percent to survey: 100 percent
- (c) Present condition: some water; pastureland
- (d) survey width: 300 feet
- (e) Level of protection: 1435 alone; 1440 when combined with Levees Nos. 2, 3, and 4

b. Plan 2- 1440 Flood Protection (see inclosed map)

1. North Holding Pond - Will be surveyed under Plan 1.
2. North Holding Pond - Alternative A - Will be surveyed under Plan 1.
3. South Holding Pond - Will be surveyed under Plan 1.
4. New Levee No. 1 - Will be surveyed under Plan 1.
5. New Levee No. 2 (designated in yellow)

- (a) Length: ca. .85 mile
- (b) Percent to survey: 100 percent
- (c) Present condition: hay fields, possibly pastureland
- (d) Survey width: 200 feet
- (e) Level of protection: 1440 with all levees

6. New Levee No. 3 (designated in yellow)

- (a) Length: ca. .40 mile
- (b) Percent to survey: 100 percent
- (c) Present condition: pastureland; brushy
- (d) Survey width: 200 feet
- (e) Level of protection: 1440 with all levees

7. New Levee No. 4 (designated in yellow)

- (a) Length: ca. .95 mile
- (b) Percent to survey: 100 percent
- (c) Present condition: pastureland; hay fields
- (d) Survey width: 200 feet
- (e) Level of protection: 1440 with all levees

5.00 PERFORMANCE SPECIFICATIONS

5.01 The Contractor will utilize a systematic, interdisciplinary approach in conducting the study. The Contractor will provide specialized knowledge and skills during the course of the study to include expertise in archeology, history, architectural history and other social and natural sciences as required.

5.02 The extent and character of the work to be accomplished by the Contractor will be subject to the general supervision, direction, control, review and approval of the Contracting Officer.

5.03 Techniques and methodologies that the Contractor uses during the investigation shall be representative of the current state of knowledge for their respective disciplines.

5.04 The Contractor shall keep standard records which shall include, but not be limited to, field notebooks, site survey forms, field maps, and photographs.

5.05 The tested areas will be returned as closely as practical to presurvey conditions by the Contractor.

5.06 The recommended professional treatment of recovered materials is curation and storage of the artifacts at an institution that can properly insure their preservation and that will make them available for research and public view. If such materials are not in Federal ownership, the consent of the owner must be obtained, in accordance with applicable law, concerning the disposition of the materials after completion of the report. The Contractor will be responsible for making curatorial arrangements for any collections which are obtained. Such arrangements must be coordinated with the appropriate officials of North Dakota and approved by the Contracting Officer.

5.07 When sites are not wholly contained within the right-of-way, the Contractor shall survey an area outside the right-of-way limits large enough to include the entire site within the survey area. This procedure shall be done in an effort to delineate site boundaries and to determine the degree to which the site will be impacted.

5.08 The Contractor shall provide all materials and equipment as may be necessary to expeditiously perform those services required of the study.

5.09 Should it become necessary in the performance of the work and services, the Contractor shall, at no cost to the Government, secure the rights of ingress and egress on properties not owned or controlled by the Government. The Contractor shall secure the consent of the owner, his representative, or agent, in writing prior to effecting entry on such property. If requested, a letter of introduction, signed by the District Engineer, can be provided to explain the project purposes and request the cooperation of landowners. Where a landowner denies permission for survey, the Contractor shall immediately notify the Contracting Officer and shall describe the extent of the property to be excluded from the survey.

Literature And Records Search And Review (See sections 3.03 and 3.04 for definitions)

5.10 The Contractor will obtain information and data for the literature and records search from, but will not be limited to, the following sources:

a. Published and unpublished reports and documents such as books, journals, theses, dissertations, manuscripts, newspapers, surveyor's maps and notes, early atlases, missionary records, and other private, city, State or Federal documents.

b. Site files and other information held at the North Dakota State Historical Society Libraries, Archives, and Archeology Department; the State Archeologist's Office; the University of North Dakota Department of Anthropology and libraries; and materials available from the Ramsey County Historical Societies and other local historical societies.

c. The Contractor will obtain from the North Dakota State Historic Preservation Office information regarding any cultural resources in the project area that have been nominated or are being considered for nomination to the National Register of Historic Places, and will report the results in the Contract report.

d. Consultation with other professionals familiar with cultural resources in the area.

e. Consultations with amateur archeologists, historians, and individuals concerned with local archeology and history in order to locate sites and to identify and define local interests and resources perceived to be locally significant.

5.11 A review and evaluation of previous archeological and historical studies of the region, including the date, extent, and adequacy of the past work as it reflects on the interpretation of what has been done in the area, should be undertaken and summarized in the report.

5.12 The literature and records search shall include a listing of all sites (historic and prehistoric) identified during the course of the study and an evaluation of the direct and indirect impact upon them of all the proposed project alternatives and features.

Phase I Survey

5.13 The on-the-ground examination will involve an intensive survey and sub-surface informal testing of the area in order to determine the total number and extent of cultural resources present. This includes standing architectural structures as well as historic and prehistoric archeological sites.

5.14 An attempt will be made to locate all resources previously recorded that are located in the project area as described in the preceding sections and to report their condition.

5.15 The survey shall include surface inspection in areas where surface visibility permits adequate recovery of cultural materials and subsurface testing where surface visibility is limited. Subsurface investigation will include shovel testing, coring, soil borings, or cut bank profiling, where necessary and appropriate.

5.16 The recommended grid or transect interval is 15 meters (50 feet). However, this interval may vary depending upon field conditions. If the recommended interval is not used, justification should be presented for selection of an alternate interval. All subsurface tests will be screened through 1/4-inch mesh.

6.00 GENERAL REPORT REQUIREMENTS

6.01 The Contractor will submit the following types of reports, which are described in this section and in section 9.00: field report, field notes, draft contract report, final contract report, and a popular report.

6.02 The Contractor's technical report shall include, but shall not be limited to, the following sections.

a. Title Page: The title page shall provide the following information: the type of investigation undertaken; the cultural resources which were assessed (archeological, historical, and architectural); the project name and location (county and State); the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or Principal Investigator; the signature of the Principal Investigator; and the agency for which the report is being prepared.

b. Abstract: An abstract of findings, conclusions, and recommendations. This should not be an annotation.

c. Management Summary: This section will include a concise summary of the study, which will contain all essential data for using the document in the Corps of Engineers management of the project. This information will minimally include: why the work was undertaken and who the sponsor is, a brief summary of the scope of work and budget, summary of the study (field work; lab analysis; literature and records search and review, including the National Register of Historic Places, dates checked, and results), study limitations, study results, significance, recommendations and the repository of all pertinent records and artifacts.

d. Table of Contents

e. List of Figures

f. List of Plates

g. Introduction: This section shall identify the sponsor (Corps of Engineers) and the sponsor's reason for the study; an overview of the sponsor's project and the alternatives, with the alternatives located on USGS quad maps; provide an overview of the archeological/historical study to be undertaken; define the location and boundaries of the study area (with regional and area-specific maps); define the study area within its cultural, regional, and environmental context; reference the scope of work; identify the institute that did the work, the number of people involved in the study, the number of person-days/hours utilized during the study; identify the dates when the various types of work were completed; identify the repository of records and artifacts; and provide a brief overview or outline of how the study report will proceed and an overview of the major goals that the study/study report will accomplish.

h. Previous Archeological and Historical Studies: This section shall provide a summary and evaluation of previous archeological and historical studies of the project area and region, including the researchers, date, extent, adequacy of the past work, study results, and cultural/behavioral inferences derived from the research.

i. Environmental Background: This section shall include a description of the study area and regional environment, including the following categories: geology, vegetation, fauna, climate, topography, physiography, and soils, with reference to prehistoric, historic, ethnographic, and contemporary periods. Any information available on the relationship of the environmental setting to the area's prehistory and history shall be included. This section shall be of a length commensurate with other report sections.

j. Regional Prehistory and History: This section shall discuss regional cultural developments, spatially and chronologically; environmental adaptations; subsistence, resource procurement, and settlement patterns; site/population density and size; and any other pertinent information on the prehistory, proto-history, and history of the project area and region.

k. Theoretical and Methodological Overview: This section shall include a description or statement of the goals of the Corps of Engineers and the study researcher, the theoretical and methodological orientation of the study, and the research strategies that were applied in achieving the stated goals.

l. Literature and Records Search and Review: This section shall detail the methodology and sources used for the literature and records search and review as well as a description and evaluation of all information and data recovered. For each reference discussed, the author, date and page numbers will be cited. Bibliographic information shall also be included at the end of the report. (See sections 3.03, 3.04, 5.10, 5.11 and 5.12.)

m. Field Methods: This section will describe specific archeological and historical activities that were undertaken to achieve the stated theoretical and methodological goals. The section shall include all field methods, techniques, strategies, and rationale or justification for specific methods or decisions. The description of the field methods shall minimally include: a description of the areas surveyed, survey conditions, topographic/physiographic features, vegetation conditions, soil types, stratigraphy, survey limitations, survey testing results with all appropriate testing forms to be included as an appendix (e.g., shovel tests, coring, cut bank profiles, etc.), degree of surface visibility, whether or not the survey resulted in the location of any cultural resources, the methods used to survey the area (pedestrian reconnaissance, subsurface test, etc.), the rationale for eliminating uninvestigated areas, the estimated size of the investigated sample and its relationship to the sample universe (e.g., 100 acres were surveyed, representing 15 percent of the project impact area), and the grid or transect interval used. Testing methods shall include descriptions of test units (size, intervals, stratigraphy, depth) and the rationale behind their placement.

n. Analysis: This section will describe and provide the rationale for the specific analytic methods and techniques used, and describe and discuss the qualitative and quantitative manipulation of the data. Limitations or problems with the analysis based on the data collection results will also be discussed. This section shall also contain references to accession numbers used for all collections, photographs, and field notes obtained during the study, and the location where they are permanently housed.

o. Investigation Results: This section will describe all the archeological and historic resources encountered during the study, and any other data pertinent to a complete understanding of the resources within the study area. This section shall include enough empirical data that the study results can be independently assessed. The description of the data shall minimally include: a description of the site; amounts and type of material remains recovered; relation of the site or sites to physiographic features, vegetation and soil types, project alternatives, and direct and indirect impact areas; analysis of the site and data (e.g., site type, cultural historical components and information, cultural/behavioral inferences or patterns); site condition; and location and size information (elevation, complete quad map source, legal description, address if appropriate, and site size, density, depth, and extent). The information shall be presented in a manner that can be used easily and efficiently by the Corps of Engineers. This site information shall be presented with each site discussed on a separate page/pages and the site location indicated on a USGS map. If a site location has not been field-verified, the Contractor must indicate the approximate area on the map and indicate that it has not been verified, or give an explanation why the site cannot be located on a map. An example of this site description format follows:

Site Number and Name

Complete Legal Description: Township, Range, Section, County or Address, if appropriate. Indicate if the site has been field-verified or not, when and by whom.

Complete USGS Quadrangle Reference: Quad name, Quad size, all Quad dates.

Report Figure/Map/Plate Reference

Accession Numbers

Site Type, Site Reports, Investigations of Dates

Cultural Affiliation (with dates or date estimates)

Environmental Descriptions: Briefly, to include topography, physiography, soils, and vegetation.

Site Description

Present Site Condition: Disturbed, undisturbed, vegetation, soils, and surface material.

Site Significance: As reported by others and the Contractor's evaluation, including an evaluation of previous conclusions.

Project Impacts: Evaluate the direct and indirect impacts of the project upon the site.

Recommendations: Management recommendations, future archeological/historic work recommendations.

Remarks: For comments with no other category.

Pertinent Bibliographic References

A paragraph before the site descriptions should indicate that, if no information is available for a specific category, this category will not be included in the listing.

The location of all sites and other features discussed in the text will be shown on a legibly photocopied USGS map and will be bound into the report. Maps shall also be included showing the relationship of sites to the project areas which were surveyed. In addition, the project map will show those areas that have been eliminated from the survey due to unacceptable survey conditions. Maps should also show the type of survey method employed for each area surveyed (for example, pedestrian walkover, shovel tests). All maps will be labeled with a caption/description, a north arrow, a scale bar, township, range, map size, and dates, and the map source (e.g., the USGS quad name or published source) and will have proper margins. All sites will be recorded on the appropriate State site forms. Inventoried sites shall include a site number. Official site designations assigned by an appropriate State agency are preferred. However, if temporary site numbers will be used in either the draft or final reports, they shall be substantially different from the official site designations to avoid confusion or duplication of site numbers. Known sites shall have their State site forms updated as necessary.

g. Evaluation and Conclusions: This section shall evaluate and formulate conclusions concerning site/sites location, density, size, condition, distribution, and significance in relation to the local and regional archeology and history; and in relation to the project alternatives and features; and shall also discuss the potential and goals for future research. The section shall also discuss the reliability of the analysis or other pertinent data recovered (e.g., site locations, types, distribution, etc.); relate results of the study and analysis to the stated study goals; identify changes, if any in the research goals; synthesize and compare the results of the analysis and study; integrate ancillary data; and identify and discuss cultural/behavioral patterns and processes that are inferred from the study and analysis results.

n. Analysis: This section will describe and provide the rationale for the specific analytic methods and techniques used, and describe and discuss the qualitative and quantitative manipulation of the data. Limitations or problems with the analysis based on the data collection results will also be discussed. This section shall also contain references to accession numbers used for all collections, photographs, and field notes obtained during the study, and the location where they are permanently housed.

o. Investigation Results: This section will describe all the archeological and historic resources encountered during the study, and any other data pertinent to a complete understanding of the resources within the study area. This section shall include enough empirical data that the study results can be independently assessed. The description of the data shall minimally include: a description of the site; amounts and type of material remains recovered; relation of the site or sites to physiographic features, vegetation and soil types, project alternatives, and direct and indirect impact areas; analysis of the site and data (e.g., site type, cultural historical components and information, cultural/behavioral inferences or patterns); site condition; and location and size information (elevation, complete quad map source, legal description, address if appropriate, and site size, density, depth, and extent). The information shall be presented in a manner that can be used easily and efficiently by the Corps of Engineers. This site information shall be presented with each site discussed on a separate page/pages and the site location indicated on a USGS map. If a site location has not been field-verified, the Contractor must indicate the approximate area on the map and indicate that it has not been verified, or give an explanation why the site cannot be located on a map. An example of this site description format follows:

Site Number and Name

Complete Legal Description: Township, Range, Section, County or Address, if appropriate. Indicate if the site has been field-verified or not, when and by whom.

Complete USGS Quadrangle Reference: Quad name, Quad size, all Quad dates.

Report Figure/Map/Plate Reference

Accession Numbers

Site Type, Site Reports, Investigations of Dates

Cultural Affiliation (with dates or date estimates)

Environmental Descriptions: Briefly, to include topography, physiography, soils, and vegetation.

Site Description

Present Site Condition: Disturbed, undisturbed, vegetation, soils, and surface material.

Site Significance: As reported by others and the Contractor's evaluation, including an evaluation of previous conclusions.

Project Impacts: Evaluate the direct and indirect impacts of the project upon the site.

Recommendations: Management recommendations, future archeological/historic work recommendations.

Remarks: For comments with no other category.

Pertinent Bibliographic References

A paragraph before the site descriptions should indicate that, if no information is available for a specific category, this category will not be included in the listing.

The location of all sites and other features discussed in the text will be shown on a legibly photocopied USGS map and will be bound into the report. Maps shall also be included showing the relationship of sites to the project areas which were surveyed. In addition, the project map will show those areas that have been eliminated from the survey due to unacceptable survey conditions. Maps should also show the type of survey method employed for each area surveyed (for example, pedestrian walkover, shovel tests). All maps will be labeled with a caption/description, a north arrow, a scale bar, township, range, map size, and dates, and the map source (e.g., the USGS quad name or published source) and will have proper margins. All sites will be recorded on the appropriate State site forms. Inventoried sites shall include a site number. Official site designations assigned by an appropriate State agency are preferred. However, if temporary site numbers will be used in either the draft or final reports, they shall be substantially different from the official site designations to avoid confusion or duplication of site numbers. Known sites shall have their State site forms updated as necessary.

g. Evaluation and Conclusions: This section shall evaluate and formulate conclusions concerning site/sites location, density, size, condition, distribution, and significance in relation to the local and regional archeology and history; and in relation to the project alternatives and features; and shall also discuss the potential and goals for future research. The section shall also discuss the reliability of the analysis or other pertinent data recovered (e.g., site locations, types, distribution, etc.); relate results of the study and analysis to the stated study goals; identify changes, if any in the research goals; summarize and present the results of the analysis and study; interpret ancillary data; identify and discuss cultural/behavioral patterns and processes that are the study and analysis results.

NO-A143 557

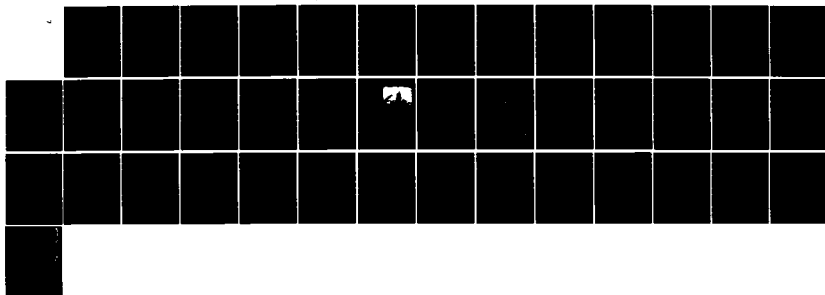
ARCHEOLOGICAL AND HISTORIC CULTURAL RESOURCES INVENTORY 2/2
FOR A PROPOSED FL. (U) HISTORICAL AND ARCHAEOLOGICAL
SURVEYS INC MANDAN NO J C DAHLBERG ET AL. OCT 83

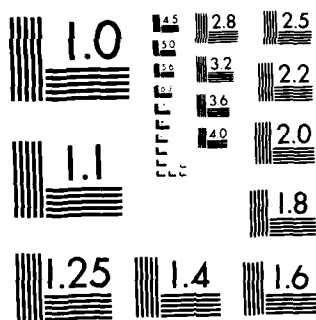
UNCLASSIFIED

DACN37-81-M-2546

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

q. Recommendations: This section shall discuss the direct and indirect impacts of all the project alternatives and features on the area's cultural resources with specific management recommendations on all previously recorded and newly discovered sites; discuss the significance of sites to the extent permitted by the study level in relation to the research goals established in the study; make recommendations on the potential eligibility of the sites to the National Register of Historic Places; recommend future intensive level research priorities, needs; and make suggestions with regard to the Corps of Engineers planning goals and project alternatives. These recommendations shall include a time and cost estimate. If it is the Contractor's assessment that no significance resources exist in the project area, the methods of investigation and reasoning which support that conclusion will be presented. If certain areas are not accessible, recommendations will be made for future consideration. Any evidence of cultural resources or materials which have been previously disturbed or destroyed will be presented and explained.

r. References: This section shall provide standard bibliographic references (American Antiquity format) for every publication cited in the report. References not cited in the report will be listed in a separate "Additional References" section.

s. Appendix: This section shall include the Scope of Work; resumes of all personnel involved; all correspondence derived from the study; all State site forms; all testing and any other pertinent report information referenced in the text as being included in the appendix.

6.03 Failure to fulfill these report requirements will result in the rejection of the report by the Contracting Officer.

7.00 FORMAT SPECIFICATIONS

7.01 The Contractor shall submit to the Contracting Officer the photographic negatives for all black and white photographs which appear in the final report.

7.02 All text materials will be typed, single-spaced (the draft reports should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches, with a 1.5-inch binding margin on the left, 1-inch margins on the top and right, and a 1.5-inch margin at the bottom, and will be printed on both sides of the paper.

7.03 Information will be presented in textual, tabular, and graphic forms, whichever are most appropriate, effective, or advantageous to communicate the necessary information.

7.04 All figures and maps must be clear, legible, self-explanatory, and of sufficiently high quality to be readily reproducible by standard xerographic equipment, and will have margins as defined above.

7.05 The final report cover letter shall include a budget of the project.

7.06 The draft and final reports will be divided into easily discernible chapters, with appropriate page separation and heading.

7.07 Negatives of all black and white photographs contained in the final report must be included so that copies for distribution can be made.

8.00 MATERIALS PROVIDED

8.01 The Contracting Officer will furnish the Contractor with the following materials:

- a. Access to any publications, records, maps, or photographs that are on file at the district headquarters.
- b. Two sets of USGS Quadrangle maps of the project area. One set will be used as field maps, and one set will be returned to the Corps of Engineers designating site numbers and locations, and areas surveyed and tested.
- c. One set of project alternative maps.
- d. A letter of introduction signed by the St. Paul District Engineer explaining the objectives of the work and requesting cooperation from private landowners, if requested.

9.00 SUBMITTALS

9.01 The Contractor will submit reports according to the following schedules:

a. Field Report: The original and one copy of a field report will be submitted after completion of the field work. The field report will summarize the work, project/field limitations, methodology used, time utilized, and survey results.

b. Project Field Notes: One legible copy of all the project field notes will be submitted with the draft contract report.

c. Draft Contract Report: The original and 10 copies of the draft contract report will be submitted on or before 60 days after contract award. The draft contract report will be reviewed by the Corps of Engineers, the State Historic Preservation Officer, the State Archeologist, and the National Park Service. The draft contract report will be submitted according to the report and contract specifications outlined in this Scope of Work.

d. Final Contract Report: The original (unbound) and 15 copies of the final contract report (bound) will be submitted 30 days after the Corps of Engineers comments on the draft contract report are received by the Contractor. The final contract report will incorporate all the comments made on the draft contract report.

e. Popular Report: A draft popular report will be submitted with the draft contract report, and will be reviewed by the Corps of Engineers. Fifteen copies of the final popular report will be submitted with the final contract report. The popular report shall be a condensed version of the contract report that would be of interest to the general public. The report shall provide an overview of the archeology, protohistory, and history of the project area and region; a brief review of the work conducted in the area and the reasons (both professional and managerial) why the work was conducted, and the results of the completed survey. Exact site locations will not be reported in the popular report.

f. Site Forms: All completed State site forms will be submitted to the appropriate State agency.

9.02 Neither the Contractor nor his representative shall release any sketch, photograph, report, or other material of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer prior to the acceptance of the final report by the Government. After the Contracting Officer has accepted the final report, distribution will not be restricted by either party except that data relating to the specific location of extant sites will be deleted in distributions to the public.

10.00 METHOD OF PAYMENT

10.01 Payment for all work performed under this contract will be made in a lump sum upon approval of the final report by the Contracting Officer.

APPENDIX II

North Dakota Cultural Resource Survey Site Form

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

Page 1

1.
2.
3.
4.
5.
6.
7.
8.
9.

I. SITE I.D.

Field Code	SITS #	State	County	Site Number
<u>HAS 8122-1</u>		<u>32</u>	<u>14</u>	<u>9</u>
1 _____ 10		11	13	15 18
Site Name	LTL	Twp	R	Sec
<u>CHAUTAUQUA RAIL BED</u>		<u>153</u>	<u>64</u>	<u>3</u>
19 _____ 38	39	40	47	48 49 50
Map Quad	LTL	Twp	R	Sec
<u>CAMP GRAFTON</u>		<u>153</u>	<u>64</u>	<u>3</u>
51 _____ 68	69	70	77	78 79 80

II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
1 <u>25</u> 2	3 <input type="checkbox"/> CM Scatter	4 <input type="checkbox"/> Bone (worked)	5 <u>19308</u> 12 m ²
	13 <input type="checkbox"/> Chimney	14 <input type="checkbox"/> Ceramics (Euro Am)	
Theme 2	15 <input type="checkbox"/> Depression	16 <input type="checkbox"/> Charcoal	Cultural Depth
17 _____ 18	19 <input type="checkbox"/> Dump	20 <input type="checkbox"/> Cloth	21 <u>0</u> 23
	24 <input checked="" type="checkbox"/> Earthworks	25 <input type="checkbox"/> Faunal Remains	Depth Indicator
	26 <input type="checkbox"/> Fortification	27 <input type="checkbox"/> Fire Cracked Rock	30 <u>0</u>
	28 <input type="checkbox"/> Foundation	29 <input type="checkbox"/> Floral Remains	
	31 <input type="checkbox"/> Grave	32 <input type="checkbox"/> Glass	Occupation Date
	33 <input type="checkbox"/> Hearth	34 <input type="checkbox"/> Hide, Hair, Fur	Begin _____ End _____
	35 <input type="checkbox"/> Machinery	36 <input type="checkbox"/> Human Remains	39 <u>1900</u> 42 43 <u>1917</u> 46
	37 <input type="checkbox"/> Quarry/Mine	38 <input type="checkbox"/> Masonry	
	47 <input type="checkbox"/> Rock Art	48 <input type="checkbox"/> Metal	Basis for Dating
	49 <input type="checkbox"/> Trail	50 <input type="checkbox"/> Plastic	53 <u>10</u> 54
	51 <input type="checkbox"/> Wreck (ship)	52 <input type="checkbox"/> Rubber	
	55 <input type="checkbox"/> Other	56 <input type="checkbox"/> Shell (worked)	CM Density Isolated Find
		57 <input type="checkbox"/> Wood (worked)	59 <u>0</u> 60 _____
		58 <input checked="" type="checkbox"/> Other	

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>7</u>	<u>8</u>	<u>10</u>	<u>3</u>	<u>3</u>
61 _____	62 63	64 65	66	67
Elevation	Drainage System			Dist Perm Water
<u>43.5</u> m.	<u>DEUILS LAKE</u>			<u>1200</u> m.
68 _____ 72	1	21	22	26
Perm Water Type	Dist Seas Water	Seas Water Type	Ecosystem	
<u>1</u>	<u>1</u>	<u>6</u>	<u>9</u>	
27 _____	28 32	33	34 37	

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>3</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>
38 _____	39	40	41	42
Fieldwork Date	Management Recommendation			
<u>6 9 82</u>	<u>1</u>			
43 _____ 48	49			
Additional Information				
<u>58: OTHER - ABANDONED RAILROAD BED</u>				
1 _____				40

OFFICE USE ONLY

Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u> <u>43</u>	<u>44</u> <u>45</u>	<u>46</u>	<u>47</u> <u>48</u>	<u>49</u>	
State Registry	National Register	E C F T F	MS Number		
<u>50</u>	<u>51</u>	<u>52</u> <u>53</u>	<u>54</u> <u>60</u>		

Coder HAS, INC.

Date Coded 9 JUNE 1982

NDCRS SITE FORM
ARCHEOLOGICAL-HISTORICAL SITES

Page 1 A

I. SITE I.D.

Field Code	SITS #		
<u>445-8122-1</u>	State	County	Site Number
<u>1</u> <u>10</u>	<u>32</u> <u>11</u>	<u>14</u> <u>13</u>	<u>9</u> <u>15</u> <u>18</u>
Site Name	LTL	Twp	R Sec QQQ QQ Q
<u>19</u> <u>38</u>	<u>1</u> <u>53</u>	<u>64</u>	<u>3</u> <u>5</u> <u>7</u> <u>8</u>
Map Quad	LTL _a	Twp _a	R _a Sec _a QQQ _a QQ _a Q _a
<u>51</u> <u>68</u>	<u>69</u> <u>70</u>	<u>77</u>	<u>78</u> <u>79</u> <u>80</u>

II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
<u>1</u> <u>2</u>	<u>3</u> CM Scatter	<u>4</u> Bone (worked)	<u>5</u> <u>12</u> m ²
	<u>13</u> Chimney	<u>14</u> Ceramics (Euro Am)	
Theme 2	<u>15</u> Depression	<u>16</u> Charcoal	Cultural Depth
<u>17</u> <u>18</u>	<u>19</u> Dump	<u>20</u> Cloth	<u>21</u> <u>23</u>
	<u>24</u> Earthworks	<u>25</u> Faunal Remains	
	<u>26</u> Fortification	<u>27</u> Fire Cracked Rock	Depth Indicator
	<u>28</u> Foundation	<u>29</u> Floral Remains	<u>30</u>
	<u>31</u> Grave	<u>32</u> Glass	
	<u>33</u> Hearth	<u>34</u> Hide, Hair, Fur	Occupation Date
	<u>35</u> Machinery	<u>36</u> Human Remains	Begin End
	<u>37</u> Quarry/Mine	<u>38</u> Masonry	<u>39</u> <u>42</u> <u>43</u> <u>46</u>
	<u>47</u> Rock Art	<u>48</u> Metal	
	<u>49</u> Trail	<u>50</u> Plastic	Basis for Dating
	<u>51</u> Wreck (ship)	<u>52</u> Rubber	<u>53</u> <u>54</u>
	<u>55</u> Other	<u>56</u> Shell (worked)	
		<u>57</u> Wood (worked)	CM Density Isolated Find
		<u>58</u> Other	<u>59</u> <u>60</u>

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>61</u>	<u>62</u> <u>63</u>	<u>64</u> <u>65</u>	<u>66</u>	<u>67</u>
Elevation	Drainage System			Dist Perm Water
<u>68</u> <u>72</u> m.	<u>1</u>		<u>21</u>	<u>22</u> <u>26</u> m.
Perm Water Type	Dist Seas Water	Seas Water Type		Ecosystem
<u>27</u>	<u>28</u> <u>32</u>	<u>33</u>		<u>34</u> <u>37</u>

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>
Fieldwork Date		Management Recommendation		
<u>43</u> <u>48</u>		<u>49</u>		
Additional Information				
<u>1</u> <u>40</u>				

OFFICE USE ONLY

Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u> <u>43</u>	<u>44</u> <u>45</u>	<u>46</u>	<u>47</u> <u>48</u>	<u>49</u>	
State Registry	National Register	E C F T F	MS Number		
<u>50</u>	<u>51</u>	<u>52</u> <u>53</u>	<u>54</u> <u>60</u>		

Coder _____

Date Coded _____

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

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I. SITE I.D.

Field Code		SITS #		State	County	Site Number
<u>4AS 8122-1</u>		<u>3 2</u>		<u>11</u>	<u>13</u>	<u>15</u>
<u>1</u>		<u>10</u>		<u>11</u>	<u>13</u>	<u>15</u>
Site Name		LTL	Twp	R	Sec	QQQ QQ Q
<u>19</u>		<u>39</u>	<u>40</u>	<u>153</u>	<u>64</u>	<u>4</u>
<u>38</u>		<u>47</u>	<u>48</u>	<u>49</u>	<u>50</u>	<u>5</u>
Map Quad		LTL	Twp	R	Sec	QQQ QQ Q
<u>51</u>		<u>69</u>	<u>70</u>	<u>153</u>	<u>64</u>	<u>4</u>
<u>68</u>		<u>77</u>	<u>78</u>	<u>79</u>	<u>80</u>	<u>5</u>

II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
<u>1</u>	<u>2</u>	<u>3</u>	<u>12 m²</u>
	<u>13</u>	<u>14</u>	
Theme 2	<u>15</u>	<u>16</u>	Cultural Depth
<u>17</u>	<u>18</u>	<u>19</u>	<u>21</u>
	<u>24</u>	<u>25</u>	<u>23</u>
	<u>26</u>	<u>27</u>	Depth Indicator
	<u>28</u>	<u>29</u>	<u>30</u>
	<u>31</u>	<u>32</u>	
	<u>33</u>	<u>34</u>	Occupation Date
	<u>35</u>	<u>36</u>	Begin End
	<u>37</u>	<u>38</u>	<u>39</u>
	<u>47</u>	<u>48</u>	<u>42</u>
	<u>49</u>	<u>50</u>	<u>43</u>
	<u>51</u>	<u>52</u>	<u>46</u>
	<u>55</u>	<u>56</u>	
		<u>57</u>	Basis for Dating
		<u>58</u>	<u>53</u>
			<u>54</u>
			CM Density Isolated Find
			<u>59</u>
			<u>60</u>

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>61</u>	<u>62</u>	<u>63</u>	<u>64</u>	<u>65</u>
Elevation	Drainage System			
<u>68</u>	<u>69</u>	<u>70</u>	<u>71</u>	<u>72</u>
Perm Water Type	Dist Seas Water	Seas Water Type	Dist Perm Water	Ecosystem
<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>
	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>
Fieldwork Date	Management Recommendation			
<u>43</u>	<u>49</u>			
<u>48</u>				
Additional Information				
<u>1</u>				
<u>40</u>				

OFFICE USE ONLY

Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u>	<u>42</u>	<u>43</u>	<u>44</u>	<u>45</u>	<u>46</u>
State Registry	National Register	E C F	T F	MS Number	
<u>50</u>	<u>51</u>	<u>52</u>	<u>53</u>	<u>54</u>	<u>55</u>
				<u>56</u>	<u>57</u>

Coder _____ Date Coded _____

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

Page 1 C

I. SITE I.D.

Field Code		SITS #		
State County Site Number				
<u>HA5 8122-1</u>		<u>32</u>	<u>11</u>	<u>13</u>
Site Name		LTL	Twp	R Sec
<u>19</u> <u>38</u>		<u>39</u>	<u>40</u>	<u>47</u>
Map Quad		LTL ^a	Twp ^a	R Sec ^a
<u>51</u> <u>68</u>		<u>69</u>	<u>70</u>	<u>77</u>

1.
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II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
<u>1</u> <u>2</u>	<u>3</u> CM Scatter	<u>4</u> Bone (worked)	<u>5</u> <u>12</u> m ²
	<u>13</u> Chimney	<u>14</u> Ceramics (Euro Am)	
Theme 2	<u>15</u> Depression	<u>16</u> Charcoal	Cultural Depth
<u>17</u> <u>18</u>	<u>19</u> Dump	<u>20</u> Cloth	<u>21</u> <u>23</u>
	<u>24</u> Earthworks	<u>25</u> Faunal Remains	
	<u>26</u> Fortification	<u>27</u> Fire Cracked Rock	Depth Indicator
	<u>28</u> Foundation	<u>29</u> Floral Remains	<u>30</u>
	<u>31</u> Grave	<u>32</u> Glass	
	<u>33</u> Hearth	<u>34</u> Hide, Hair, Fur	Occupation Date
	<u>35</u> Machinery	<u>36</u> Human Remains	Begin End
	<u>37</u> Quarry/Mine	<u>38</u> Masonry	<u>39</u> <u>42</u> <u>43</u> <u>46</u>
	<u>47</u> Rock Art	<u>48</u> Metal	
	<u>49</u> Trail	<u>50</u> Plastic	Basis for Dating
	<u>51</u> Wreck (ship)	<u>52</u> Rubber	<u>53</u> <u>54</u>
	<u>55</u> Other	<u>56</u> Shell (worked)	
		<u>57</u> Wood (worked)	CM Density Isolated Find
		<u>58</u> Other	<u>59</u> <u>60</u>

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>61</u>	<u>62</u> <u>63</u>	<u>64</u> <u>65</u>	<u>66</u>	<u>67</u>
Elevation	Drainage System			Dist Perm Water
<u>68</u> <u>72</u> m.	<u>1</u>	<u>21</u>	<u>22</u>	<u>26</u> m.
Perm Water Type	Dist Seas Water	Seas Water Type		Ecosystem
<u>27</u>	<u>28</u> <u>32</u>	<u>33</u>	<u>34</u>	<u>37</u>

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>
Fieldwork Date		Management Recommendation		
<u>43</u> <u>48</u>		<u>49</u>		
Additional Information				
<u>1</u> <u>40</u>				

OFFICE USE ONLY

Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u> <u>43</u>	<u>44</u> <u>45</u>	<u>46</u>	<u>47</u>	<u>48</u>	<u>49</u>
State Registry	National Register	E C F T F	MS Number		
<u>50</u>	<u>51</u>	<u>52</u> <u>53</u>	<u>54</u>	<u>60</u>	

Coder _____

Date Coded _____

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

Page 1 D

I. SITE I.D.

Field Code
UAS 8122-1

Site Name

Map Quad

SITS #

State County Site Number

32 24 9
11 13 15 18

LTL Twp R Sec QQQ QQ Q
39 40 53 64 4 1 6 7

LTL_a Twp_a R_a Sec_a QQQ_a QQ_a Q_a
69 70 53 64 4 7 6 7

II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
1 <u>2</u>	3 <u>CM Scatter</u>	4 <u>Bone (worked)</u>	5 <u>12 m²</u>
	13 <u>Chimney</u>	14 <u>Ceramics (Euro Am)</u>	
Theme 2	15 <u>Depression</u>	16 <u>Charcoal</u>	Cultural Depth
17 <u>18</u>	19 <u>Dump</u>	20 <u>Cloth</u>	21 <u>23</u>
	24 <u>Earthworks</u>	25 <u>Faunal Remains</u>	
	26 <u>Fortification</u>	27 <u>Fire Cracked Rock</u>	Depth Indicator
	28 <u>Foundation</u>	29 <u>Floral Remains</u>	30 <u></u>
	31 <u>Grave</u>	32 <u>Glass</u>	
	33 <u>Hearth</u>	34 <u>Hide, Hair, Fur</u>	Occupation I
	35 <u>Machinery</u>	36 <u>Human Remains</u>	Begin End
	37 <u>Quarry/Mine</u>	38 <u>Masonry</u>	39 <u>42</u> <u>46</u>
	47 <u>Rock Art</u>	48 <u>Metal</u>	
	49 <u>Trail</u>	50 <u>Plastic</u>	Basis for Dating
	51 <u>Wreck (ship)</u>	52 <u>Rubber</u>	53 <u>54</u>
	55 <u>Other</u>	56 <u>Shell (worked)</u>	
		57 <u>Wood (worked)</u>	CM Density Isolated Find
		58 <u>Other</u>	59 <u>60</u>

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>61</u>	<u>62</u> <u>63</u>	<u>64</u> <u>65</u>	<u>66</u>	<u>67</u>
Elevation	Drainage System			Dist Perm Water
<u>68</u> <u>72</u> m.	<u>1</u>	<u>21</u>	<u>22</u> <u>26</u> m.	
Perm Water Type	Dist Seas Water	Seas Water Type	Ecosystem	
<u>27</u>	<u>28</u> <u>32</u>	<u>33</u>	<u>34</u> <u>37</u>	

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>
Fieldwork Date		Management Recommendation		
<u>43</u> <u>48</u>		<u>49</u>		
Additional Information				

OFFICE USE ONLY

Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u> <u>43</u>	<u>44</u> <u>45</u>	<u>46</u>	<u>47</u> <u>48</u>	<u>49</u>	
State Registry	National Register	E C F T F	MS Number		
<u>50</u>	<u>51</u>	<u>52</u> <u>53</u>	<u>54</u> <u>60</u>		

Coder

Date Coded

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

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I. SITE I.D.

Field Code	SITS #	
<u>HHS 8122-1</u>	State	County Site Number
<u>1</u> <u>10</u>	<u>32</u> <u>11</u>	<u>24</u> <u>13</u> <u>9</u> <u>15</u> <u>18</u>
Site Name	LTL	Twp R Sec QQQ QQ Q
<u>19</u> <u>38</u>	<u>39</u> <u>40</u>	<u>53</u> <u>64</u> <u>4</u> <u>4</u> <u>6</u> <u>7</u> <u>7</u>
Map Quad	LTL	Twp R Sec QQQa QQa Qa
<u>51</u> <u>68</u>	<u>69</u> <u>70</u>	<u>53</u> <u>64</u> <u>9</u> <u>1</u> <u>8</u> <u>8</u> <u>8</u>

II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
<u>1</u> <u>2</u>	<u>3</u> <u>CM Scatter</u>	<u>4</u> <u>Bone (worked)</u>	<u>5</u> <u>12 m²</u>
Theme 2	<u>13</u> <u>Chimney</u>	<u>14</u> <u>Ceramics (Euro Am)</u>	Cultural Depth
<u>17</u> <u>18</u>	<u>15</u> <u>Depression</u>	<u>16</u> <u>Charcoal</u>	<u>21</u> <u>23</u>
	<u>19</u> <u>Dump</u>	<u>20</u> <u>Cloth</u>	Depth Indicator
	<u>24</u> <u>Earthworks</u>	<u>25</u> <u>Faunal Remains</u>	<u>30</u> <u></u>
	<u>26</u> <u>Fortification</u>	<u>27</u> <u>Fire Cracked Rock</u>	Occupation Date
	<u>28</u> <u>Foundation</u>	<u>29</u> <u>Floral Remains</u>	Begin End
	<u>31</u> <u>Grave</u>	<u>32</u> <u>Glass</u>	<u>39</u> <u>42</u> <u>43</u> <u>46</u>
	<u>33</u> <u>Hearth</u>	<u>34</u> <u>Hide, Hair, Fur</u>	Basis for Dating
	<u>35</u> <u>Machinery</u>	<u>36</u> <u>Human Remains</u>	<u>53</u> <u>54</u>
	<u>37</u> <u>Quarry/Mine</u>	<u>38</u> <u>Masonry</u>	CM Density Isolated Find
	<u>47</u> <u>Rock Art</u>	<u>48</u> <u>Metal</u>	<u>59</u> <u>60</u>
	<u>49</u> <u>Trail</u>	<u>50</u> <u>Plastic</u>	
	<u>51</u> <u>Wreck (ship)</u>	<u>52</u> <u>Rubber</u>	
	<u>55</u> <u>Other</u>	<u>56</u> <u>Shell (worked)</u>	
		<u>57</u> <u>Wood (worked)</u>	
		<u>58</u> <u>Other</u>	

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>61</u> <u>Elevation</u>	<u>62</u> <u>63</u> <u>Drainage System</u>	<u>64</u> <u>65</u>	<u>66</u>	<u>67</u> <u>Dist Perm Water</u>
<u>68</u> <u>Perm Water Type</u>	<u>72</u> <u>1</u>	<u>21</u> <u>22</u> <u>26</u>	<u>27</u> <u>28</u> <u>32</u>	<u>33</u> <u>34</u> <u>37</u>
<u>27</u>	<u>28</u> <u>32</u>	<u>33</u>	<u>34</u> <u>37</u>	

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>
Fieldwork Date	Management Recommendation			
<u>43</u> <u>48</u>	<u>49</u>			
Additional Information				
<u>1</u> <u>40</u>				

OFFICE USE ONLY

Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u> <u>43</u>	<u>44</u> <u>45</u>	<u>46</u>	<u>47</u> <u>48</u>	<u>49</u>	
State Registry	National Register	E C F T F	MS Number		
<u>50</u>	<u>51</u>	<u>52</u> <u>53</u>	<u>54</u> <u>60</u>		

Coder _____

Date Coded _____

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

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I. SITE I.D.

Field Code	SITS #	
<u>H.D.S. 81.22-1</u>	State <u>32</u> County <u>K4</u> Site Number <u>9</u>	
1 <u>10</u>	11 <u>13</u> 15 <u>18</u>	
Site Name	LTL Twp R Sec QQQ QQ ?	
<u>19</u> <u>38</u>	<u>39</u> <u>40</u> <u>47</u> <u>48</u> <u>49</u> <u>50</u>	
Map Quad	LTL _a Twp R Sec QQQ _a QQ _a Q _a	
<u>51</u> <u>68</u>	<u>69</u> <u>70</u> <u>77</u> <u>78</u> <u>79</u> <u>80</u>	

II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
1 <u>2</u>	3 <u>CM Scatter</u>	4 <u>Bone (worked)</u>	5 <u>12 m²</u>
	13 <u>Chimney</u>	14 <u>Ceramics (Euro Am)</u>	
Theme 2	15 <u>Depression</u>	16 <u>Charcoal</u>	Cultural Depth
17 <u>18</u>	19 <u>Dump</u>	20 <u>Cloth</u>	21 <u>23</u>
	24 <u>Earthworks</u>	25 <u>Faunal Remains</u>	
	26 <u>Fortification</u>	27 <u>Fire Cracked Rock</u>	Depth Indicator
	28 <u>Foundation</u>	29 <u>Floral Remains</u>	30 <u></u>
	31 <u>Grave</u>	32 <u>Glass</u>	
	33 <u>Hearth</u>	34 <u>Hide, Hair, Fur</u>	Occupation Date
	35 <u>Machinery</u>	36 <u>Human Remains</u>	Begin <u></u> End <u></u>
	37 <u>Quarry/Mine</u>	38 <u>Masonry</u>	39 <u>42</u> 43 <u>46</u>
	47 <u>Rock Art</u>	48 <u>Metal</u>	
	49 <u>Trail</u>	50 <u>Plastic</u>	Basis for Dating
	51 <u>Wreck (ship)</u>	52 <u>Rubber</u>	53 <u>54</u>
	55 <u>Other</u>	56 <u>Shell (worked)</u>	CM Density Isolated Find
		57 <u>Wood (worked)</u>	59 <u>60</u>
		58 <u>Other</u>	

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>61</u>	<u>62</u> <u>63</u>	<u>64</u> <u>65</u>	<u>66</u>	<u>67</u>
Elevation	Drainage System			Dist Perm Water
<u>68</u> <u>72</u>	<u>1</u>	<u>21</u>	<u>22</u>	<u>26</u>
Perm Water Type	Dist Seas Water	Seas Water Type	Ecosystem	
<u>27</u>	<u>28</u> <u>32</u>	<u>33</u>	<u>34</u>	<u>37</u>

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>
Fieldwork Date	Management Recommendation			
<u>43</u> <u>48</u>	<u>49</u>			
Additional Information				
<u>1</u> <u>40</u>				

OFFICE USE ONLY

OFFICE USE ONLY					
Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u> <u>43</u>	<u>44</u> <u>45</u>	<u>46</u>	<u>47</u> <u>48</u>	<u>49</u>	
State Registry	National Register	E C F T F	MS Number		
<u>50</u>	<u>51</u>	<u>52</u> <u>53</u>	<u>54</u> <u>60</u>		

Coder

Date Coded

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

Page 1 6

I. SITE I.D.

Field Code		SITS #		State	County	Site Number
<u>HA5 8.12.2-1</u>				<u>3 2</u>	<u>RY</u>	<u>9</u>
<u>1</u> <u>10</u>				<u>11</u>	<u>13</u>	<u>15</u> <u>18</u>
Site Name		LTL	Twp	R	Sec	QQQ QQ Q
<u>19</u> <u>38</u>		<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>	<u>43</u> <u>44</u> <u>45</u>
Map Quad		LTL _a	Twp _a	R _a	Sec _a	QQQ _a QQ _a Q _a
<u>51</u> <u>68</u>		<u>69</u>	<u>70</u>	<u>71</u>	<u>72</u>	<u>73</u> <u>74</u> <u>75</u>

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II. SITE DESCRIPTION

Theme 1	Site Type	Cultural Material	Site Area
<u>1</u> <u>2</u>	<u>3</u> CM Scatter	<u>4</u> Bone (worked)	<u>5</u> <u>12</u> m ²
	<u>13</u> Chimney	<u>14</u> Ceramics (Euro Am)	
Theme 2	<u>15</u> Depression	<u>16</u> Charcoal	Cultural Depth
<u>17</u> <u>18</u>	<u>19</u> Dump	<u>20</u> Cloth	<u>21</u> <u>23</u>
	<u>24</u> Earthworks	<u>25</u> Faunal Remains	Depth Indicator
	<u>26</u> Fortification	<u>27</u> Fire Cracked Rock	<u>30</u>
	<u>28</u> Foundation	<u>29</u> Floral Remains	
	<u>31</u> Grave	<u>32</u> Glass	Occupation Date
	<u>33</u> Hearth	<u>34</u> Hide, Hair, Fur	Begin End
	<u>35</u> Machinery	<u>36</u> Human Remains	<u>39</u> <u>42</u> <u>43</u> <u>46</u>
	<u>37</u> Quarry/Mine	<u>38</u> Masonry	
	<u>47</u> Rock Art	<u>48</u> Metal	Basis for Dating
	<u>49</u> Trail	<u>50</u> Plastic	<u>53</u> <u>54</u>
	<u>51</u> Wreck (ship)	<u>52</u> Rubber	
	<u>55</u> Other	<u>56</u> Shell (worked)	CM Density Isolated Find
		<u>57</u> Wood (worked)	<u>59</u> <u>60</u>
		<u>58</u> Other	

III. ENVIRONMENT

Landform 1	Landform 2	Slope/Exposure	View, degree	View, distance
<u>61</u>	<u>62</u> <u>63</u>	<u>64</u> <u>65</u>	<u>66</u>	<u>67</u>
Elevation	Drainage System			Dist Perm Water
<u>68</u> m.	<u>1</u>		<u>21</u>	<u>22</u> <u>26</u> m.
Perm Water Type	Dist Seas Water	Seas Water Type		Ecosystem
<u>27</u>	<u>28</u> <u>32</u>	<u>33</u>		<u>34</u> <u>37</u>

IV. C.R.M.

Ownership	Site Condition	Collection	Test	Excavation
<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>
Fieldwork Date		Management Recommendation		
<u>43</u> <u>48</u>		<u>49</u>		
Additional Information				
<u>1</u> <u>40</u>				

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OFFICE USE ONLY					
Soil Association	Ecozone	Area Signf	CR Type	Verified Site	Non-Site
<u>41</u> <u>43</u>	<u>44</u> <u>45</u>	<u>46</u>	<u>47</u>	<u>48</u>	<u>49</u>
State Registry	National Register		E C F T F	MS Number	
<u>50</u>	<u>51</u>	<u>52</u>	<u>53</u>	<u>54</u> <u>60</u>	

Coder

Date Coded

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

Page 1 *H*

I. SITE I.D.

Field Code <u>HAS 8122-1</u>	SITS #		State <u>32</u>	County <u>24</u>	Site Number <u>9</u>
Site Name _____	LTL <u>39</u>	Twp <u>40</u>	R <u>53</u>	Sec <u>64</u>	QQQ <u>7</u>
Map Quad _____	LTL <u>69</u>	Twp <u>70</u>	R <u>53</u>	Sec <u>64</u>	QQQ <u>7</u>

II. SITE DESCRIPTION

Theme 1 1 <u>2</u>	Site Type 3 <u>CM Scatter</u>	Cultural Material 4 <u>Bone (worked)</u>	Site Area 5 <u>12 m²</u>
Theme 2 17 <u>18</u>	13 <u>Chimney</u>	14 <u>Ceramics (Euro Am)</u>	Cultural Depth 21 <u>23</u>
	15 <u>Depression</u>	16 <u>Charcoal</u>	Depth Indicator 30 <u> </u>
	19 <u>Dump</u>	20 <u>Cloth</u>	Occupation Date Begin <u>39</u> End <u>46</u>
	24 <u>Earthworks</u>	25 <u>Faunal Remains</u>	Basis for Dating 53 <u>54</u>
	26 <u>Fortification</u>	27 <u>Fire Cracked Rock</u>	CM Density Isolated Find 59 <u> </u> 60 <u> </u>
	28 <u>Foundation</u>	29 <u>Floral Remains</u>	
	31 <u>Grave</u>	32 <u>Glass</u>	
	33 <u>Hearth</u>	34 <u>Hide, Hair, Fur</u>	
	35 <u>Machinery</u>	36 <u>Human Remains</u>	
	37 <u>Quarry/Mine</u>	38 <u>Masonry</u>	
	47 <u>Rock Art</u>	48 <u>Metal</u>	
	49 <u>Trail</u>	50 <u>Plastic</u>	
	51 <u>Wreck (ship)</u>	52 <u>Rubber</u>	
	55 <u>Other</u>	56 <u>Shell (worked)</u>	
		57 <u>Wood (worked)</u>	
		58 <u>Other</u>	

III. ENVIRONMENT

Landform 1 61 <u>Elevation</u>	Landform 2 62 <u>Drainage System</u>	Slope/Exposure 64 <u> </u>	View, degree 66 <u> </u>	View, distance 67 <u> </u>
Perm Water Type 68 <u> </u>	Dist Seas Water 28 <u> </u>	Seas Water Type 33 <u> </u>	Ecosystem 34 <u> </u>	

IV. C.R.M.

Ownership 38 <u> </u>	Site Condition 39 <u> </u>	Collection 40 <u> </u>	Test 41 <u> </u>	Excavation 42 <u> </u>
Fieldwork Date 43 <u> </u>	Management Recommendation 49 <u> </u>			

OFFICE USE ONLY

Soil Association 41 <u> </u>	Ecozone 44 <u> </u>	Area Signf 46 <u> </u>	CR Type 47 <u> </u>	Verified Site 48 <u> </u>	Non-Site 49 <u> </u>
State Registry 50 <u> </u>	National Register 51 <u> </u>	E C F 52 <u> </u>	T F 53 <u> </u>	MS Number 54 <u> </u>	<u> </u>

Coder _____

Date Coded _____

NDCRS SITE FORM
 ARCHEOLOGICAL-HISTORICAL SITES

Page 1 *I*

I. SITE I.D.

Field Code 445 8.1.22-1 SITS #
 State 32 County 24 Site Number 9
 11 13 15 18
 Site Name LTL Twp R Sec QQQ QQ Q
 19 38 39 40 47 48 49 50
 Map Quad LTL_a Twp_a R_a Sec_a QQQ_a QQ_a Q_a
 51 68 69 70 77 78 79 80

1. N
 2. E
 3. S
 4. W
 5. N
 6. S
 7. S
 8. N
 9.

II. SITE DESCRIPTION

Theme 1 Site Type Cultural Material Site Area
 1 2 3 CM Scatter 4 Bone (worked) 5 12 m²
 13 Chimney 14 Ceramics (Euro Am)
 Theme 2 15 Depression 16 Charcoal Cultural Depth
 17 18 19 Dump 20 Cloth 21 23
 24 Earthworks 25 Faunal Remains
 26 Fortification 27 Fire Cracked Rock Depth Indicator
 28 Foundation 29 Floral Remains 30
 31 Grave 32 Glass
 33 Hearth 34 Hide, Hair, Fur Occupation Date
 35 Machinery 36 Human Remains Begin End
 37 Quarry/Mine 38 Masonry 39 42 43 46
 47 Rock Art 48 Metal
 49 Trail 50 Plastic Basis for Dating
 51 Wreck (ship) 52 Rubber 53 54
 55 Other 56 Shell (worked)
 57 Wood (worked) CM Density Isolated Find
 58 Other 59 60

III. ENVIRONMENT

Landform 1 Landform 2 Slope/Exposure View, degree View, distance
 61 62 63 64 65 66 67
 Elevation Drainage System Dist Perm Water
 68 72 1 21 22 26
 Perm Water Type Dist Seas Water Seas Water Type Ecosystem
 27 28 32 33 34 37

IV. C.R.M.

Ownership Site Condition Collection Test Excavation
 38 39 40 41 42
 Fieldwork Date Management Recommendation
 43 48 49
 Additional Information
 1 40

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OFFICE USE ONLY
 Soil Association Ecozone Area Signf CR Type Verified Site Non-Site
 41 43 44 45 46 47 48 49
 State Registry National Register E C F T F MS Number
 50 51 52 53 54 60

Coder _____ Date Coded _____

1. ACCESS: From intersection of U.S. Highway 2 and ND Highway 20 (at southwest edge of Devils Lake, ND), proceed northwest on U.S. 2 approx. 140 m--turn left (southwest) onto access road, then turn right (north) immediately and proceed north past Package Liquor Store for approx. 120 m. The northern end of the old railbed appears as an unimproved road immediately to the left (southwest). Complete legal location for this site provided on Continuation form, page 5.
2. DESCRIPTION OF SITE: Site consists of what presently remains (railbed) of abandoned Devils Lake & Chautauqua Railroad (DLCRR), once extending from Great Northern depot & roundhouse (north of DLCRR depot) to the Chautauqua Grounds on east side of Creel Bay (DLCRR depot has long been torn down). Approximately 3.2 km of original 9.6 km long railbed still visible from ground level, and contained in Sections 3, 4, 7, 8, and 9, T153N, R64W. Much of former railbed in Sections 3 & 4 presently is being used as unimproved vehicle road, presumably by resident farmers. Condition of railbed feature generally poor or very poor due to combined effects of waterlogging, plowing, vehicular traffic, and domestic animal use. At points where bed is still visible, it rises from 0.1 to 1.5 m above present ground level; bed averages 6.0 m in width. In most places where bed is visible, it is bordered on both sides by borrow pits which are normally about 2.0 m in width and measure from 0.1 to 1.0 in depth. During survey, most of these pits were filled with runoff water and supported aquatic plants and waterfowl. Bedding material, as viewed in erosional cuts, appears to consist of greyish-brown clay mixed with varying amounts of gravel. Feature is more prominent in its northeastern area (i.e., in Section 3 and in its eastern portion in Section 4). Bed was built higher in these places to compensate for low, flat topography associated with lake deposits (see continuation form--page 5; and maps--pages 4 & 6).
3. DESCRIPTION OF CULTURAL MATERIALS (Quantify and Identify):
Only cultural material observed was the soil and gravel used in construction of the railbed. Bedding material appears to consist of greyish-brown clay mixed with varying amounts of gravel. This material appears to have been obtained locally. Generally, in areas along the former rail line where a prepared bed is preserved, this bed is bordered on both sides by a borrow pit. This may represent source from which clay was taken. Gravel may have been extracted from glacial till present in the soil surrounding the railbed at elevations above 1430 ft. Glacial till appears particularly prevalent at the higher elevations of Section 4 in the northeast corner (northeast end of COE study area) and in the west-central portion of Section 4 (western end of COE study area). A large esker containing huge quantities of sand and gravel is located near the west edge of Creel Bay, approx. 5 mi. northwest of the COE study area (Bluemle 1975: Plate 1). (See maps, pages 4 and 6.)

0 # of items of cultural material observed 0 # collected
4. ARTIFACT REPOSITORY: NA
5. DESCRIPTION OF SUBSURFACE TESTING: Three 0.5 m² test pits were excavated in the fields adjacent to the railbed. A number of erosional cuts in the railbed also were examined. Fields were so saturated with water at time of testing that ground water was hit at ca. 30 cm below surface. No cultural materials were noted.

Recorded by James C. Dahlberg, HASIDate 8 June 1982

NDCRS ARCHEOLOGICAL AND HISTORICAL SITE FORMS

Field Code HAS 8122-1

Descriptive Section

SITS Number 32 Ry 9

Page 3

6. CURRENT USE OF SITE: Automobile traffic and/or pastureland.
7. OWNER'S NAME/ADDRESS: Unknown
8. VEGETATION: Variable: in low elevation--aquatic and marsh-related plants; in higher elevations--prairie grasses and forbs.
9. COVER (% of visible ground): Varies from 10 to 90 percent with erosional effects.
10. MAN-HOURS SPENT ON SITE: 6 hours.
11. PROJECT TITLE: Proposed Flood Control Project, Devils Lake, Ramsey County, North Dakota (for the U.S. Corps of Engineers, St. Paul District).
P.I.: Kent N. Good
12. REPORT TITLE: Archaeological and Historic Cultural Resources Inventory for a Proposed Flood Control Project at Devils Lake, Ramsey County, North Dakota.
AUTHOR: James C. Dahlberg, Wayne R. Roberson, and Michele H. Schreiner
13. OTHER PUBLISHED REFERENCES: Devils Lake Bicentennial Committee. 1976. A Bicentennial History of Devils Lake, North Dakota.
14. DESCRIPTION OF COLLECTIONS OBSERVED: None observed.
15. OWNER-ADDRESS OF COLLECTIONS OBSERVED: NA
16. STATEMENT OF INTEGRITY: Site lacks integrity in that all cultural materials associated with railroad, with the exception of portions of earthworks comprising railbed, have been removed. Removal of tracks and ties has drastically altered the original feature. The bed which remains is in a poor state of preservation due to erosional effects of waterlogging, vehicular traffic, and domestic animal use.
17. STATEMENT OF SIGNIFICANCE: Not significant: with the stated lack of integrity, we have determined that this site is not significant. Its significance would be by association with the Chautauqua, itself, and no activities associated with this recreational facility remain today. We do not feel that the site warrants preservation; a portion of the remaining railbed approx. 140 m long will not be affected by the proposed COE project (proposed holding pond location in Section 4; see maps, pages 4 and 6).
18. COMMENTS/REFERENCES: See Item 12, this page. See Item 13, this page. Bluemler, J.P. 1975 (revised). Guide to the Geology of North-Central North Dakota. Educational Series No. 7. North Dakota Geological Survey. See continuation sheet, page 5.

Recorded by James C. Dahlberg, HASIDate 8 June 1982

Field Code HAS 8122-1

NDCRS SITE FORM
Map & Photo Section

Page 4

SITS Number 32249

SEE Attached, page 6.



Photo B&W 8122-2-1A-2
I.D. Code Color

Storage Location HAS LABORATORY
GRAND FORKS

PHOTO TAKEN TO THE SOUTHWEST
(INSIDE THE STUDY AREA)

SKETCH MAP

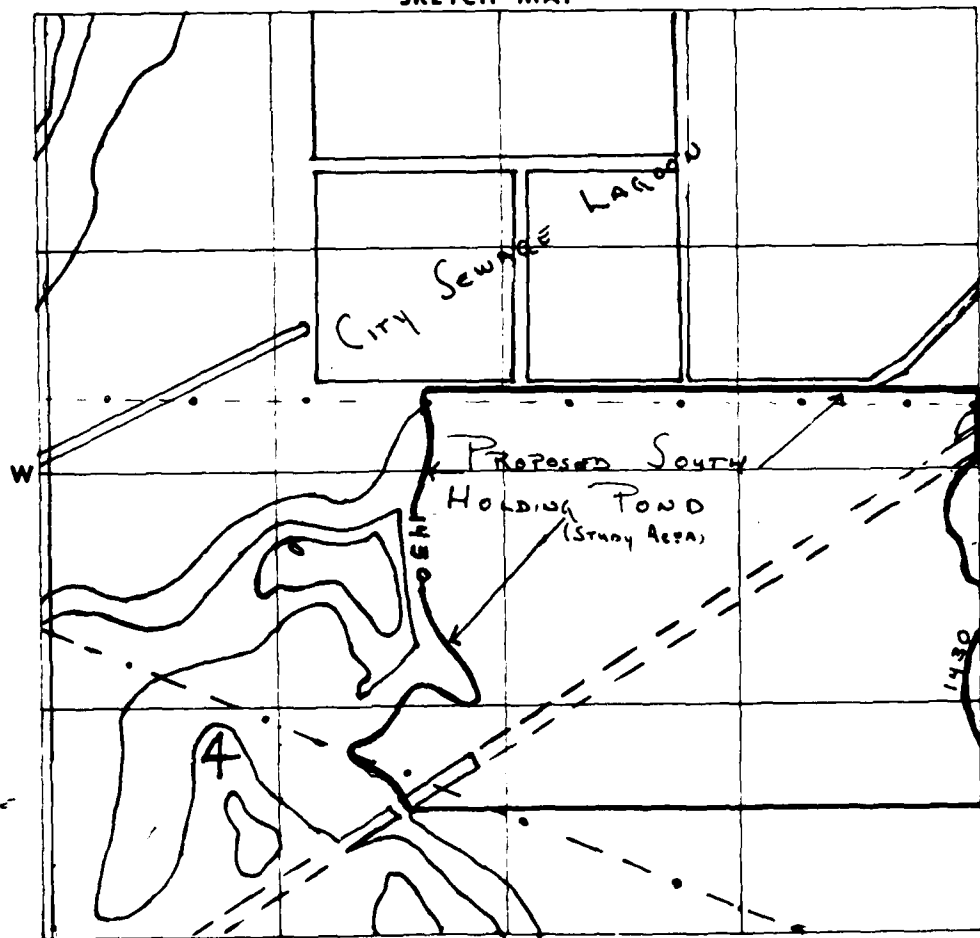
MAP KEY:

ROAD =====

POWER
LINE ---o---

S' CENTER
LINE ~~~~~

RAIL BED ====



MAP SCALE:

MAP BOUNDARY
CONTAINS 1 SQUARE MILE
NOTE: SECTION 4 IS
AN IRREGULARLY SHAPED
SECTION.

Recorded by J.C. DAHLBERG

Date 8 June 1985

COMPLETE LEGAL LOCATION:

Sections 3, 4, 7, 8, and 9, T153N, R64W

ITEM 2, Description of Site, continued:

In the southwestern area, the bed was not built as high because the land itself is at a higher elevation and consists of glacial deposits (see maps, pages 4 and 6).

ITEM 18, References, continued:

U.S.G.S. 7.5' Topographic Quadrangle Maps:

Camp Grafton, N. Dak. 1951 (Photo-revised 1975)

Devils Lake, N. Dak. 1951 (Photo-revised 1975)

HISTORIC OVERVIEW

The first annual meeting of the State Chautauqua Assembly was held Wednesday, 28 June 1893, through Monday, 27 July 1893, at the Chautauqua Grounds on Creel Bay. The grounds had been layed out earlier that year (1893) in Section 18, T153N, R64W. Initially, Chautauqua goers were transported from Devils Lake to the grounds by steamboat or wagon. By 1899, however, the lake had receded to such an extent that the steamboat was no longer able to dock at the city of Devils Lake. The Devils Lake & Chautauqua Railroad line was completed for the next Chautauqua, held in June and July of 1900 (construction of the line may have begun as early as 1899, and was completed by June 1900). The steam-powered, trolley-like train ran on a narrow-gauge track which extended southwest from the Great Northern Roundhouse to the Chautauqua grounds, an estimated distance of 6 mi. Due to the increasing popularity of use of automobiles, the tracks were removed from the bed in late December 1917. The final Chautauqua Assembly held on Creel Bay apparently consisted of a five-day session, lasting from 1 July to 5 July 1929 (Devils Lake Bicentennial Committee 1976).

APPENDIX III

Shovel Test Forms

HISTORICAL AND ARCHAEOLOGICAL SURVEYS, INC.

Shovel Test Form

PROJECT: U.S. Army Corps of Engineers - Devils Lake Flood Control

SITE NAME: Chautauqua Railroad SITE NUMBER: 32RY9

SITE TYPE: Abandoned Railbed COUNTY/STATE: Ramsey, North Dakota

PIT NUMBER: 1 TEST LOCATION: Pit was located approximately 10 m northwest of railbed and approximately 200 m west of the east edge of Section 4, T153N, R64W.

TEST SIZE: 0.5 m²

TEST DEPTH: 30 cm

SURFACE CHARACTERISTICS: Mixture of prairie and marsh grasses

SUBSURFACE SOIL CHARACTERISTICS: Sod is approximately 5 cm thick and overlies dark silty humic loam, which extends to about 20 cm below surface. From this point to approximately 30 cm below surface, soil grades into a light gray-brown silty clay. The water table was encountered at 30 cm below surface and this test was terminated.

CULTURAL MATERIAL: None recovered.

COMMENTS: Appears that the underlying clay could have been used as bedding material for the railbed.

RECORDER: J.C. Dahlberg

DATE: 8 June 1982

HISTORICAL AND ARCHAEOLOGICAL SURVEYS, INC.

Shovel Test Form

PROJECT: U.S. Army Corps of Engineers - Devils Lake Flood Control

SITE NAME: Chautauqua Railroad SITE NUMBER: 32RY9

SITE TYPE: Abandoned Railbed COUNTY/STATE: Ramsey, North Dakota

PIT NUMBER: 2 TEST LOCATION: Pit was located
approximately 10 m northwest of railbed and approximately 500 m west of
the east edge of Section 4, T153N, R64W.

TEST SIZE: 0.5 m²

TEST DEPTH: 25 cm

SURFACE CHARACTERISTICS: Mixture of prairie and marsh grasses

SUBSURFACE SOIL CHARACTERISTICS: Sod is approximately 5 cm thick and
overlies dark silty humic loam, which extends to about 20 cm below
surface. From this point to approximately 25 cm below surface, soil
grades into a light gray-brown silty clay. The water table was
encountered at 25 cm below surface and this test was terminated.

CULTURAL MATERIAL: None recovered.

COMMENTS: Appears that the underlying clay could have been used as
bedding material for the railbed.

RECORDER: J.C. Dahlberg

DATE: 8 June 1982

HISTORICAL AND ARCHAEOLOGICAL SURVEYS, INC.

Shovel Test Form

PROJECT: U.S. Army Corps of Engineers - Devils Lake Flood Control

SITE NAME: Chautauqua Railroad SITE NUMBER: 32RY9

SITE TYPE: Abandoned Railbed COUNTY/STATE: Ramsey, North Dakota

PIT NUMBER: 3 TEST LOCATION: Pit was located approximately 10 m northwest of railbed and approximately 700 m west of the east edge of Section 4, T153N, R64W.

TEST SIZE: 0.5 m²

TEST DEPTH: 30 cm

SURFACE CHARACTERISTICS: Mixture of prairie and marsh grasses

SUBSURFACE SOIL CHARACTERISTICS: Sod is approximately 5 cm thick and overlies dark silty humic loam, which extends to about 20 cm below surface. From this point to approximately 30 cm below surface, soil grades into a light gray-brown silty clay. The water table was encountered at 30 cm below surface and this test was terminated.

CULTURAL MATERIAL: None recovered.

COMMENTS: Appears that the underlying clay could have been used as bedding material for the railbed.

RECORDER: J.C. Dahlberg

DATE: 8 June 1982

APPENDIX IV

Vitae

VITA

Name: Kent N. Good

Date and Place of Birth: 29 June 1946, Great Falls, Montana

Present Position: Research Archaeologist and President
Historical and Archaeological Surveys, Inc.
2207 Springbrook Court
Grand Forks, ND 58201

Education: University of Montana, B.A., 1964-69
University of Montana, M.A., 1969-74

Teaching Experience: 1970-72, Graduate Assistant, University of Montana
1972-73, Instructor, University of North Dakota

Research Experience: 1972-79, Associate Research Archaeologist,
University of North Dakota
1979-81, Research Archaeologist, Historical
and Archaeological Surveys, Inc.

Research: (Conducted for University of North Dakota Archaeological Research)

1970, Archaeological Survey of the Pryor Mountain-Bighorn
Canyon Recreation Area, June-Sept.

1971, Field Supervisor, Archaeological Excavation in the
Pryor Mountain-Bighorn Canyon Recreation Area, June-Sept.

1972, Field Supervisor, National Park Service, Archaeological
Salvage of the Pryor Mountain-Bighorn Canyon National Recrea-
tion Area Road - Phase II.

1973, Field Supervisor, National Park Service, Crow Tribal
Land Archaeological Survey.

1973, Field Supervisor, Corps of Engineers, Archaeological
Excavation of the Moe Site (32MN101), Lake Sakakawea, North
Dakota.

1973, Field Supervisor, Bureau of Reclamation, Archaeological
Survey of the Patterson Lake and Versippi Reservoir, North
Dakota.

1974, Field Supervisor, Archaeological Survey of the Turtle
River Watershed, Forest River Watershed, North Dakota, Soil
Conservation Service.

1974, Field Supervisor, Archaeological Survey of the Route of
the Proposed Dome Pipeline, North Dakota State Historical
Society.

1974, Field Supervisor, Archaeological Survey of the Shoreline of Lake Homme, North Dakota.

1974, Field Supervisor, Archaeological Excavation at the Pretty Creek Archaeological Site, Pryor Mountains, Montana, National Park Service.

1975, Field Supervisor, Archaeological Survey of the Warwick-McVille Proposed Canal Route, Garrison Diversion and Proposed Recreation Areas, North Dakota. Bureau of Reclamation.

1976, Field Supervisor, Archaeological Investigations in the LaMoure-Oakes and Wild Rice River Project Areas, LaMoure-Oakes Project Area, Garrison Diversion Unit, North Dakota. Bureau of Reclamation.

1977, Principal Investigator, Archaeological Test Excavation of the Highway 8 Site, 32DU2, Garrison Reservoir, North Dakota. U.S. Army Corps of Engineers, Omaha District.

1977, Field Supervisor, Archaeological Survey of Burlington Dam/Lake Darling, North Dakota. U.S. Army Corps of Engineers, St. Paul District.

1978, Principal Investigator, Archaeological Test Excavation of the Anderson Tipi Ring Site (32ML111) for the Falkirk Mining Company, Bismarck, North Dakota.

1978, Principal Investigator, Archaeological Test Excavations of Three Sites within Affected Areas of the Proposed Burlington Dam, Souris River Basin, North Dakota. U.S. Army Corps of Engineers, St. Paul District.

1979, Principal Investigator, An Archaeological Survey of a Coal Mine Development for the Falkirk Mining Company, Bismarck, North Dakota.

(Conducted for Historical and Archaeological Surveys, Inc.)

1979, Principal Investigator, Archaeological and Historical Survey, Proposed Haul Road and Watershed Project. Indian Head Mine, North American Coal Company, Bismarck, North Dakota.

1979, Principal Investigator, Archaeological Supplementary-- Literature Consolidation Report for North American Coal Company, Bismarck, North Dakota.

1979-80, Principal Investigator, Archaeological Test Excavation, Survey of Mine Area and Oral History Research, Mercer County, North Dakota. Coteau Properties, North American Coal Company, Bismarck, North Dakota.

1980, Principal Investigator, Test Excavation of Sites 32ME217 and 32ME218, Section K, Indian Head Mine, North Dakota.

1980, Principal Investigator, Class III Cultural Resource Inventory, Proposed State Highway 16 Improvement, North Dakota.

1980, Principal Investigator, Cultural Resource Inventory, Proposed Power Plant Site, Otter Tail Power and Stearns-Roger Engineering, North Dakota.

1981, Principal Investigator, Mitigation Plan, Phase I for the Saskatchewan Intertie Transmission Line Right-of-Way, Northwestern North Dakota, Basin Electric Power Cooperative.

1981, Principal Investigator, Cultural Resource Assessment of the Proposed Mining Area, McLean County, North Dakota, The Falkirk Mining Company.

Publications:

1973, Preliminary Land Use, Environmental and Socio-Economic Assessment of the Warroad River and Bull Creek Drainage Area, Minnesota. Richard Bares, Paul B. Kannowski, Ralph D. Kingsbury, Phyllis E. Moen, John R. Reid, Nikki R. Seabloom, co-authors. Institute for Ecological Studies, University of North Dakota, Research Report #4.

1973, Environmental Impact Assessment of the Roseau River, Minnesota. John R. Reid, Ronald J. Hall, Richard Bares, Donald L. Rubbelke, Phyllis Moen, Larry J. Dobesh, co-authors. Institute for Ecological Studies, University of North Dakota, Research Report #5.

1974, A Survey and Synthesis of Archaeological Sites within the Sub-Alpine Ecological Zone, Pryor Mountains, Montana. M.A. Thesis on file at the University of Montana, unpublished.

1974, The Results of the Archaeological Survey in the Grapevine Creek Area, Bighorn Canyon National Recreation Area--1972 Field Season. National Park Service. Lawrence L. Loendorf, co-author.

1975, The Results of the Archaeological Survey of Crow Tribal Lands, Bighorn Canyon National Recreation Area--1972 Field Season. National Park Service.

1976, Preliminary Report of the Cultural Resource Inventory of Portions of the Central North Dakota Section, Garrison Diversion Unit, North Dakota. National Park Service. Frederick Schneider and Kurt Schweigert, co-authors.

1976, Archaeology Investigations in the LaMoure-Oakes Project Area, Garrison Diversion, North Dakota. National Park Service. James C. Dahlberg, William Tibesar, and Susan Vehik, co-authors.

- 1 -

1976, The Commissary Ridge Bison Kill (27MB63). Archaeology in Montana 17(1 & 2). Lawrence L. Loendorf, co-author.

1977, Archaeological Investigations of the Hendrickson III Site-- 32SN403, LaMoure-Oakes Project Area, Garrison Diversion Unit, North Dakota. Bureau of Reclamation. James Dahlberg, Thomas Larson, Bruce Benz, and Frederick Schneider, co-authors.

1977, Archaeological Investigations in the LaMoure-Oakes and Wild Rice River Project Areas, LaMoure-Oakes Project Area, Garrison Diversion Unit, North Dakota. Bureau of Reclamation. Willard Kinney, Carmen Greenshields, and Bruce Benz, co-authors.

1977, Archaeological Test Excavation of the Highway 8 Site, 32DU2, Garrison Reservoir, North Dakota. Omaha District, Corps of Engineers. Jeffrey L. Hauff, co-author.

1977, Fortification Sites in the Big Horn Canyon Area. Archaeology in Montana 18(2 & 3). Lawrence L. Loendorf, co-author.

1978, An Archaeological Survey: Shoreline of Lake Darling and Proposed Burlington Dam, Flood Control Project Area, Upper Souris River, North Dakota. St. Paul District, Corps of Engineers. Richard A. Fox, co-author, with contributions by Michele Schreiner.

1978, Archaeological Test Excavation at the Anderson Tipi Ring Site (32ML111), McLean County, North Dakota: A Cultural Resource Study in Central North Dakota. Falkirk Mining Company, Bismarck, North Dakota. Jeffrey L. Hauff, co-author.

1980, A Cultural Resource Assessment of the Pembilier Lake and Dam Flood Control Project (A Literature and Records Search), Pembina River, Pembina and Cavalier Counties, North Dakota. James C. Dahlberg and Larry J. Sprunk, co-authors.

1980, Test Excavation of Two Archaeological Sites (32ME217 and 32ME218) within Section K, Indian Head Mine, North American Coal Company. John M. Logan, co-author.

1980, Results of a Class III Cultural Resource Inventory, Route and Alternates of the Proposed State Highway 16 Improvement in Golden Valley and McKenzie Counties, North Dakota. John M. Logan, co-author.

1981, Results of a Literature Search and Class III Cultural Resource Inventory of Two Proposed Sites for the Location of a Coal-fired Power Plant near Spiritwood, North Dakota. Kurt P. Schweigert, John M. Logan and Cecelia F. Jones, co-authors.

1981, Final Report Historical and Archaeological Survey and Testing Project, Proposed Mining Area - The Coteau Properties Company, Antelope Valley, Mercer County, North Dakota. James C. Dahlberg, Larry Sprunk, and John Logan, co-authors.

1981, Final Report Historical and Archaeological Survey and Testing Project - Proposed Mining Area - Falkirk Mine, McLean County, North Dakota. James C. Dahlberg, Wayne Roberson, Larry Sprunk, and Carl Freuden, contributors. Co-edited with Michele H. Schreiner.

1981, Final Report Mitigation Plan Phase I for the Saskatchewan Intertie Transmission Line Right-of-Way, Northwestern North Dakota. James C. Dahlberg, co-author.

Papers Read at Professional Meetings:

1975, "The Lisbon Burial - A Possible Middle Missouri Burial," read at the Plains Anthropological Conference, Lincoln, Nebraska, November.

1978, "Results of the Archaeology Survey of the Proposed Burlington Dam Project," read at the Association of Manitoba Archaeologists Conference, Winnipeg, Manitoba, May.

1979, "The Archaeology of the Anderson Tipi Ring Site, North Dakota," read at the Joint Plains-Midwest Archaeological Conference, Grand Forks, North Dakota, April.

Foreign Language: French

Research Interests: North American Prehistory, Early Hunters and their
Lithic Technology, Nomadic Peoples of the Plains

Memberships: Sigma Xi
Plains Anthropological Conference
Plains Anthropologist

VITA

Name: Wayne R. Roberson

Education: Wm. Fleming H.S., Roanoke, VA Grad. 1960
Univ. Virginia Branch, Roanoke, VA 1 yr. academic, 1961
Virginia Polytechnic Inst., Blacksburg, VA 2 yrs. Architecture
1961, 1963
Univ. Oklahoma, Norman, OK 1 sem. academic, 1964
Univ. Cincinnati, Cincinnati, OH 1 sem. Architecture, 1967
Univ. Cincinnati, Cincinnati, OH B.A. Anthropology, 1970
Univ. Texas at Austin, TX M.A. Anthropology, 1972

Present Position:

Historical and Archaeological Surveys, Inc.
2207 Springbrook Court
Grand Forks, ND 58201
(701) 746-0810 or 775-5090

Research: (Supervised)

- 1968 Laboratory analysis (bio specimens, utilized flakes), Univ. Cincinnati; R.I. Ford
- 1971-72 Archaeological survey, historic documents research, oral history interviews, Univ. Texas, Dept. Anthropology; T.N. Campbell and W.W. Newcomb, Jr.
- 1971-72 Photography, surveys, excavations, lab procedures, etc., Texas Historical Commission; C.O. Tunnell, J.D. Scurlock, and J. Malone
- 1972 Report preparation, Texas Historical Commission; J.D. Scurlock
- 1973 Field survey and test excavation, St. Augustine, TX; K. Gilmore
- 1973 Excavations, Spanish translations, and lab analysis, Texas Parks & Wildlife Dept., Austin, TX; D. Lorraine
- 1973 Historic documents research and report preparation, Texas Archaeological Survey, Austin, TX; D. Dibble
- 1980 Mondak Bridge Survey, McKenzie, Co., ND; Survey, test excavations, documents research, and oral history interviews; F. Schneider

(As Principal Investigator/Field Director)
- 1973-76 Ft. Lancaster St. Historic Site, TX; Excavations at military fort, materials' stabilization experiments, adobe reconstruction, documents research, oral history interviews, etc.

Ft. Leaton St. Historic Site, TX; Excavations at chapel of Mexican-Colonial trading post

Sabine Pass Battleground St. Historical Park, TX; Excavations at Civil War fort, documents research, oral history interviews

Ft. Richardson St. Historic Site, TX; Test excavation at Bakery of U.S. military fort

Palo Duro St. Park, TX; Test excavation at historic dugout

Sea Rim State Park, TX; Archaeological survey

San Jacinto Battleground St. Monument, TX; Test excavations and survey

Mineral Wells State Park, TX; Archaeological Survey

Landmark Inn St. Historic Site, TX; Excavations, documents research

Sam Bell Maxey House, Paris, TX; Excavations, oral history interviews

San Jose Mission, San Antonio, TX; Test excavations

Rice Family Log Home, Neches, TX; Survey and test excavation

McKinney Falls St. Park, TX; Excavations at Horse Trainer's house

(As Principal Investigator)

1973-76 Mission Rosario, TX; 17 weeks field excavations

Ft. Leaton St. Historic Site, TX; Excavations

Ft. Richardson St. Historic Site, TX; Excavations

Ft. McKavett St. Historic Site, TX; Excavations

Ft. Lipantitlan, TX; Test excavations and survey

San Jose Mission, San Antonio, TX; Excavations

Landmark Inn St. Historic Site, TX; Excavations

San Jacinto Battleground St. Monument, TX; Excavations

Mineral Wells St. Park, TX; Test excavations

L.B.J. St. Park, TX; Excavations

Ft. Griffin St. Park, TX; Excavations

Falcon Reservoir, TX; Survey

McKinney Falls St. Park, TX; Excavations and field school

(As Field Director)

1979-81 South Beulah Mine Extension, Mercer Co., ND; Test excavations and report preparation

Mondrian Tree Site, McKenzie County, North Dakota; Test excavations and report preparation

Northern Border Pipeline, North Dakota; Test excavations and report preparation

Northern Border Pipeline Crossing of Lake Oahe, Morton County, North Dakota; Excavations at 32M060, documents research, and oral history interviews

(Other Research)

1978-81 Mayan Calendar Studies

1981 Cultural Resource Assessment of the Proposed Mining Area, McLean County, North Dakota; The Falkirk Mining Company. Report preparation

Publications

1972 The Study of Extinct Rural Communities in the United States: A Test of Feasibility. M.A. Thesis, Univ. Texas, Austin.

1974 The Carrington-Covert House; Archeological Investigation of a 19th Century Residence in Austin, Texas. Texas Historical Commission, Office of the State Archeologist Reports, Number 25.

1974 Anglo-American Ceramics, in: Mission Rosario; Archeological Investigations 1973, by Kathleen Gilmore. Archeological Report 14, Part 1, Texas Parks and Wildlife Department, Austin.

1974 Archeological Narrative, in: Preservation Plan and Program for Rice Family Log Home, Houston County, Texas. Knox et al., Texas Parks and Wildlife Department, Austin.

1974 (Co-authored with Paul R. McGuff) Lower Sabine and Neches Rivers, Texas and Louisiana: A Study of the Prehistoric Resources in Areas under Investigation for Navigation Improvement. Research Report 46, Texas Archeological Survey, University of Texas, Austin.

1974 (Co-authored with J. David Ing) Fort Leaton State Historic Site: Summary of Archeological Investigations, and Excavation of Chapel, 1973. Archeological Report Number 15, Texas Parks and Wildlife Department, Austin.

1976 Archeological Narrative, in: Preservation Plan and Program for Fort Lancaster State Historic Site, Crockett County, Texas. Knox et al., Texas Parks and Wildlife Department, Austin.

1976 (Co-authored with T. Holtzapple) Sabine Pass Battleground State Historical Park, Jefferson County, Texas; Archeological Investigations. Texas Parks and Wildlife Department, Austin.

- 1978 Mayan Calendar, An Almanac; Volume 1. Downhome General Store, Austin.
- 1980 West Study Area, South Beulah Mine Extension, Mercer County, North Dakota; Cultural Resources Survey and Test Excavations. Department of Anthropology and Archaeology, University of North Dakota.
- 1980 Archaeological Test Excavations at the Mondrian Tree Site (32MZ58), McKenzie County, North Dakota; with a Chapter on Faunal Analysis by Emily G. Lovick. Department of Anthropology and Archaeology, University of North Dakota.
- 1981 Mayan Calendar, 1981. Downhome General Store, Grand Forks.
- 1981 (Co-authored with Fred Schneider) Cultural Resource Inventory of the Mondak Bridge Project. Department of Anthropology and Archaeology, University of North Dakota.
- 1981 (Co-authored with Cindy Parish) Northern Border Pipeline, North Dakota: Historic Sites Testing and Evaluation. Department of Anthropology and Archaeology, University of North Dakota.
- 1981 (Co-authored with James C. Dahlberg, Larry Sprunk and Carl Freuden; Edited by Kent N. Good and Michele H. Schreiner) Final Report Historical and Archaeological Survey and Testing Project - Proposed Mining Area - Falkirk Mining Area - Falkirk Mine, McLean County, North Dakota. Historical and Archaeological Surveys, Inc. Grand Forks.

Professional Organizations

Society for Historical Archaeology, 1973 to present
Texas Archeological Society, 1974 to present
Society for American Archaeology, 1974-1976
Society of Professional Archeologists, 1976 to present, with emphases:
 Field Research
 Collections Research
 Theoretical, Archival Research
 Archeological Administration
 Cultural Resource Management
 Historical Archeology

VITA

Name: James C. Dahlberg

Place of Birth: Butte, Montana

Present Position: Chief Archaeological Researcher and Photographer
Historical and Archaeological Surveys, Inc.
2207 Springbrook Court, Grand Forks, North Dakota

Education: 1968-1973, B.A., University of Montana
1978, M.A. Credits, Iowa State University

Previous Positions: 1973-1977, Research Assistant, Department of Anthropology, University of North Dakota
1977-1978, Advanced Research Assistant and Graduate Assistant, Iowa State University
1979, Advanced Research Assistant and Photographer, Department of Anthropology and Archaeology, University of North Dakota
1979, Advanced Research Assistant and Photographer, Department of Anthropology, University of Montana
1979-present, Chief Archaeological Researcher and Photographer, Historical and Archaeological Surveys, Inc.

Research:

Field - 1973, Archaeological Excavation of the Pretty Creek Archaeological Site, Pryor Mountains, Montana.

1974, Archaeological Survey of the Turtle River Watershed, North Dakota.

1974, Archaeological Survey of the Route of the Proposed Dome Pipeline, North Dakota

1974, Excavation of the "Fort Smith Burial," Yellow Tail Dam, Montana.

1975, Assistant Supervisor, Archaeological Test Excavation along the James River and Proposed Taayer Reservoir, South Central North Dakota.

1976, Archaeological Survey and Test Excavation of the James River Valley, Garrison Diversion Bank Stabilization Project, North Dakota.

1978, Archaeological Survey and Test Excavation of the Saylorville Reservoir Project, Central Iowa.

1978, Archaeological Survey and Photography of Falkirk Mining Project, Central North Dakota.

1979, Archaeological Excavation and Photography of Spring Creek Mining Project, South Central Montana.

Lab -

1973-1977, Research Assistant, Department of Anthropology and Archaeology, University of North Dakota, Grand Forks--involved in laboratory duties for a large number of field reports.

1977-1978, Ceramic analysis for the Department of Anthropology, Iowa State University.

1979, Advanced Research Assistant, Department of Anthropology and Archaeology, University of North Dakota, Grand Forks--involved in writing field report of the Pretty Creek Archaeological Site - 24CB4 & 5, Montana.

(Conducted for Historical and Archaeological Surveys, Inc.)

1980, Chief Researcher, Literature and Records Search, Pembilier Lake and Dam Flood Control Project, St. Paul District, Corps of Engineers. Pembina and Cavalier counties, North Dakota.

1980, Chief Researcher and Photographer, Cultural Resource Assessment of Twelve Known Archaeological and Five Known Historic Sites, Coteau Properties Company, Mercer County, North Dakota.

1980, Chief Researcher and Photographer, Cultural Resource Assessment of the Proposed State Highway 16 Improvement, State Highway Department, Golden Valley and McKenzie counties, North Dakota.

1980, Chief Researcher and Photographer, Cultural Resource Assessment of Two Sites Proposed for the Location of a Coal-fired Power Plant near Spiritwood, North Dakota.

1981, Chief Researcher, Mitigation Plan, Phase I for the Saskatchewan Intertie Transmission Line Right-of-Way, Northwestern North Dakota, Basin Electric Power Cooperative.

1981, Chief Researcher, Cultural Resource Assessment of the Proposed Mining Area, McLean County, North Dakota. The Falkirk Mining Company.

Publications:

1976, Archaeological Investigations in the LaMoure-Oakes Project Area, Garrison Diversion, North Dakota. National Park Service. Kent N. Good, William Tibesar, and Susan Vehik, co-authors.

1977, Archaeological Investigations of the Hendrickson III Site - 32SN403. LaMoure-Oakes Project Area, Garrison Diversion Unit, North Dakota. Bureau of Reclamation. Kent N. Good, Thomas Larson, Bruce Benz and Fred Schneider, co-authors.

1979, Archaeological Excavations at the Garrison Tipi Ring Site, 32ML117, McLean County, North Dakota: An Archaeological Salvage Project. Kent N. Good, co-author.

1979, Archaeological Survey of a Coal Mine Development for the Falkirk Mining Company, McLean County, North Dakota. Kent N. Good, co-author.

1980, A Cultural Resource Assessment of the Pembilier Lake and Dam Flood Control Project (A Literature and Records Search), Pembina River, Pembina and Cavalier Counties, North Dakota. U.S. Army Corps of Engineers, St. Paul District. Kent N. Good and Larry J. Sprunk, co-authors.

1981, Final Report Historical and Archaeological Survey and Testing Project, Proposed Mining Area - The Coteau Properties Company, Antelope Valley, Mercer County, North Dakota. Kent N. Good, Larry Sprunk, and John Logan, co-authors.

1981, Final Report Historical and Archaeological Survey and Testing Project - Proposed Mining Area - Falkirk Mine, McLean County, North Dakota. Wayne Roberson, Larry Sprunk, and Carl Freuden, co-authors. Edited by Kent N. Good and Michele H. Schreiner.

1981, Final Report Mitigation Plan Phase I for the Saskatchewan Intertie Transmission Line Right-of-Way, Northwestern North Dakota. Kent N. Good, co-author.

1981, The Pretty Creek Archaeological Site, 24CB4 & 5. Lawrence L. Loendorf and Lori O. Weston, co-authors.

Foreign Language: German and Spanish

Research Interests: Ceramic analysis from eastern North Dakota and the
the Missouri Trench
North American prehistory and artifact technology
Research photography

VITA

Name: Larry J. Sprunk

Date and Place of Birth: 22 February 1940, Chaffee, North Dakota

Military Service: U.S. Army 1962-1965, 82nd Airborne Division, Honorable Discharge

Education: B.A., Westmar College, LeMars, Iowa
M.A., North Dakota State University, Fargo, North Dakota
Ph.D. Credits, Emporia State College, Emporia, Kansas
Washington State University, Pullman, Washington

Teaching Experience: 1966-1968, Graduate Assistant, North Dakota State University, Fargo, North Dakota
1968-1970, College of Emporia, Emporia, Kansas
1970-1971, Graduate Assistant, Washington State University, Pullman, Washington
1971-1973, Hibbing State Junior College, Hibbing, Minnesota

Job Experience: News Reporter, Mandan Pioneer, Mandan, North Dakota, 1973
Director, North Dakota Oral History Project, 1973-1977
President, Historical Surveys, Inc. (now Historical and Archaeological Surveys, Inc.) 1977-1980

Memberships: Western Writers of America, Inc.
The North Dakota Society of Germans from Russia
The North Dakota Historical Society, Inc.
Oral History Association

Publications and Productions:

1976, Co-authored, directed and played "Skinner" in "The Handcarved Prairie Rose," a live stage production presented 14 times in 13 North Dakota communities and aired on the state's Prairie Public Television.

1978, Co-authored "A History of the North Dakota State Highway Department," (published in 1979).

1979, Authored "We Remember the Rivers: An Oral History Survey of the River Valleys in the Harry S. Truman Dam and Reservoir Project," including a study of Joseph A. Dice, Bridge Builder. Contract with the Kansas City District, Corps of Engineers.

1979-1980, Oral History of Sites within Proposed Mine Area - Coteau Properties. In conjunction with Cultural Resource Inventory conducted by Historical and Archaeological Surveys, Inc.

1980, Literature Search (History), Cultural Resource Investigation of the Pembilier Lake and Dam Flood Control Project. Conducted for the St. Paul District, Corps of Engineers.

1981, Contributor to Final Report Historical and Archaeological Survey and Testing Project - Proposed Mine Area - Falkirk Mine, McLean County, North Dakota. Conducted for the Falkirk Mining Company, Bismarek, North Dakota.

Guest Lectures and Workshops:

1976 (March), "The Techniques and Equipment of Oral History," University of North Dakota - A Symposium for Highschool History Instructors.

1977 (April), "The Value and Methodology of Oral History," University of Missouri guest lecture for Historic Preservation Class.

1978 (June), "Conducting Oral History Surveys," A workshop conducted for the National Park Service at their Stanton, North Dakota office.

1979 (April), "Oral History: Samples and Suggestions." Guest lecture for Historic Preservation and Anthropology classes, University of Missouri.

1980, Authored "The History of Garrison," for the Garrison North Dakota Civic Club. This city history is for the 75th anniversary of Garrison.

Ongoing, Presenting the "Turkey Track Bill Show" to state, national, and international audiences. The show was written in 1978 and presented as a one hour "Evening with Turkey Track Bill" under the sponsorship of the North Dakota Committee for the Humanities and Public Issues, a state non-profit organization affiliated with the National Endowment for the Humanities. Under this title, the one-man performance was given in 11 North Dakota communities as part of the NDCHPI's Chautauqua series. In 1979, the title was changed, content extended to a full-length dramatic format, and the show independently booked by Historical and Archaeological Surveys, Inc.

END

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